

SR# K1406110-002



**ALS Environmental**  
1317 S. 13th Avenue • Kelso, WA 98626

### COLIFORM BACTERIA ANALYSIS

Date Sample Collected <u>6/17/14</u> Month Day Year	Time Sample Collected <u>12:50</u> <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	County <u>Pacific</u>
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Type of Water System (check only one box)

Group A     Group B     Private Household     Other \_\_\_\_\_

Group A and Group B Systems - Provide from Water Facilities Inventory (WFI):  
ID# 63000C

System Name: North Beach Water

Contact Person: William Neal

Day Phone: (360)-665-4144    Cell Phone: (360)-244-0068

Eve. Phone: (360)-244-0068    FAX: (360)-665-4641

Send results to: (Print full name, address and zip code)

PO Box 618 Ocean Park, WA 98640

#### SAMPLE INFORMATION

Sample collected by (name): Nick Morrison

Specific location where sample collected: <u>N55#-13</u> <u>205 E Birch</u>	Special instructions or comments:
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#### Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)

<b>#1. <input checked="" type="checkbox"/> Routine Distribution Sample</b> Chlorinated: Yes _____ No <input checked="" type="checkbox"/> Chlorine Residual: Total _____ Free _____	<b>#2. Repeat Sample (after unsat. routine)</b> <input type="checkbox"/> Distribution System <input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less) Unsatisfactory routine lab number: <u>0 1 7</u> - _____ Unsatisfactory routine collect date: _____ / _____ / _____ Chlorinated: Yes _____ No _____ Chlorine Residual: Total _____ Free _____

**#4.  Sample Collected for Information Only**

Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

<b>LAB USE ONLY</b>	<b>DRINKING WATER RESULTS</b>	<b>LAB USE ONLY</b>
<input type="checkbox"/> Unsatisfactory Total Coliform Present and		<input checked="" type="checkbox"/> Satisfactory
<input type="checkbox"/> E. coli present <input type="checkbox"/> E. coli absent		

Replacement Sample Required:

Sample too old (>30 hours)     TNTC     \_\_\_\_\_  
 Improper Container     Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E. coli \_\_\_\_\_ /100ml.

Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: MICR- <u>SM9223B</u>	Date, Time and Temp Received: <u>6/18/14</u> <u>1030</u>
Date Analyzed <u>06/18/14</u>	Date Reported: <u>06/19/14</u>
Sample Number (DOH number plus five digits) <u>0 1 7 - 61102</u>	Lab Use Only: <u>46/20/14</u>

#### INTERPRETATION OF RESULTS FOR DRINKING WATER

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

#### REPORTING OF RESULTS:

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

#### SATISFACTORY RESULTS:

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

#### UNSATISFACTORY RESULTS:

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the IMMEDIATE ACTION REQUIRED by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480.
3. Publicly notify the users of public water systems as specified in WAC 246-290-480.
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

#### TEST UNSUITABLE: Resample immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible. "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results. "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

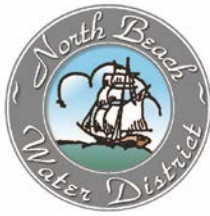
#### RESAMPLE:

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.) insufficient volume. (Sample must be at least 100 ml) if not tested, a new sample must be submitted for analysis.

#### FOR ADDITIONAL INFORMATION:

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
 Cowlitz County - (360) 414-5599  
 Lewis County - (800) 562-6130  
 Pacific County - (360) 875-9356



# GENERAL MANAGER'S REPORT

## Report on Water System Operations for the Month of: June, 2014

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The Metering Period for this report begins on:

April 3, 2014 and ends on May 3, 2014.

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The Billing Period for this report is for the:

May 16, 2014 through May 16, 2014.

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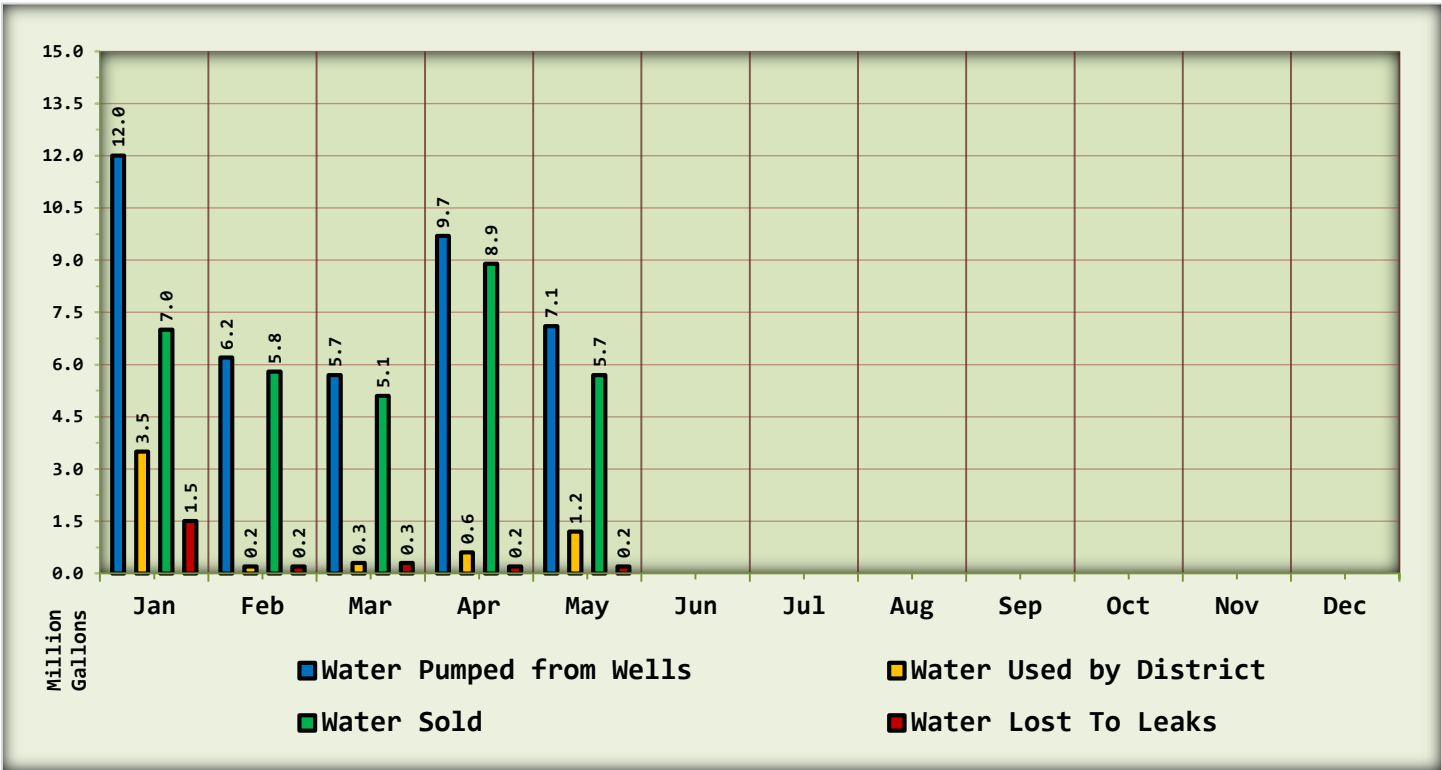
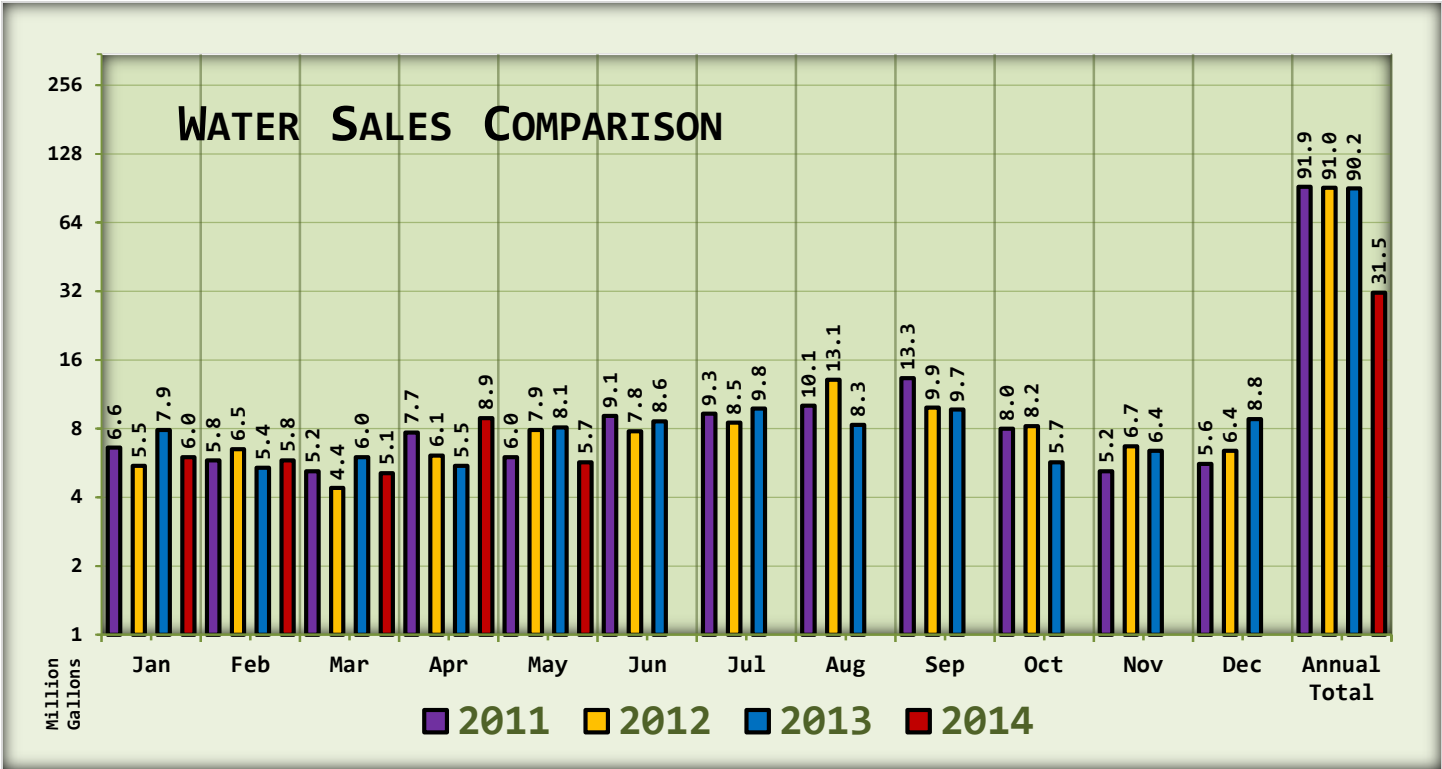
The Activity Period for this report is for the:

JUNE 1, 2014 through June 30, 2014.

Water pumped from all wells in Metering Period	7.1 mg <sup>1</sup>
Water used by District in Metering Period	1.2 mg
Water sold in Metering Period	5.7 mg
Water lost to leaks in Metering Period	0.2 mg
Percent of water lost in Metering Period	3.0%
<hr/>	
Water pumped from all wells in 2014 to date	40.7 mg
Water used by the District in 2014 to date	5.8 mg
Water sold in 2014 to date	32.5 mg
Water lost to leaks in 2014 to date	2.4 mg
Percent of water lost in 2014 to date	2.0%
<hr/>	
Accounts billed for water in billing period (\$130,607)	2,677
Accounts billed a late fee in billing period (\$3,040)	304
Accounts 60 days past due in billing period	84
Accounts secured with a lien	31
Accounts locked off for nonpayment in billing period (\$550)	11
<hr/>	
Water quality complaints responded to in Activity Period:	
Water Quality	04
Customer Service	00
Other	00
Locates requests in Activity Period	41
Number of customer valves installed in Activity Period	03

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<sup>1</sup> Million Gallons



## **Water Quality Report:**

Nine coliform bacteria samples were collected from the distribution system submitted to a certified laboratory in June, 2014.

**Eight Samples tested negative for coliform bacteria.**

**One Sample tested positive for coliform bacteria**

**Four repeat samples tested negative for coliform and e coli bacteria**

The Environmental Protection Agency (EPA) regulates disinfection byproducts in drinking water. NBWD tests for bromate ( $\text{BrO}_3^-$ ) every month. The treatment plant uses ozone ( $\text{O}_3$ ) as an oxidant to remove iron, manganese, and color. One of NBWD's raw water benign constituents is bromide ( $\text{Br}^-$ ). If the dose of ozone is too high then the extra ozone not used to oxidize iron, manganese, and color will convert bromide to bromate ( $\text{Br}^- + \text{O}_3 \rightarrow \text{BrO}_3^-$ ). According to the EPA, some people who drink water containing bromate in excess of the maximum contaminant level (MCL) of 0.010 mg/l have an increased risk of getting cancer.

NBWD tests for bromate once a month.

**Test one result <0.005 mg/L (satisfactory)**

In addition to federal and state mandated water quality tests The Treatment Plant Operator (TPO) monitors the water quality at the treatment plant and in the distribution system. The reasons for the extra water quality monitoring is to monitor the quality of the our source water, verify the treatment plant is operating at peak efficiency, and maintain the highest quality water possible is being delivered to our ratepayers. The water quality monitoring is part of the operation and maintenance plan.

In the treatment plant the raw water (well water) quality is tested regularly to monitor seasonal, inter-annual, and historical fluctuations. The TPO monitors eight constituents of the raw water. They are iron (Fe), manganese (Mn), color (Clr), pH, temperature ( $^{\circ}\text{F}$ ), tannic acid (Ta), silica ( $\text{SiO}_2$ ), ammonia ( $\text{NH}_3$ ). The treatment plant is designed to remove iron, manganese, and color. The TPO monitors iron, manganese, and color to establish a baseline for removal efficiency of the treatment plant and to record raw water historical quality fluctuations. The TPO tests for pH, temperature, tannic acid, silica, and ammonia because fluctuations in these constituents require adjustments to the operation protocols in the treatment plant and affect the quality of the finished water.

The TPO tests the finished water (post treatment) before it goes to storage for the same constituents as the raw water. All of this data is recorded every day. The general manager reviews the data regularly with the TPO to discuss trends and review operation protocols.

In the distribution system the TPO regularly tests for five drinking water constituents but may test for others based on conditions. The TPO regularly tests for color, temperature, pH, taste, and odor. The TPO bases his need for reactionary water main flushing on the results of these tests.

If the color is between 15hu and 30hu the water main will be scheduled for a flush within the next week. If the color is above 30hu it will be scheduled for a flush within the next 24 hours.

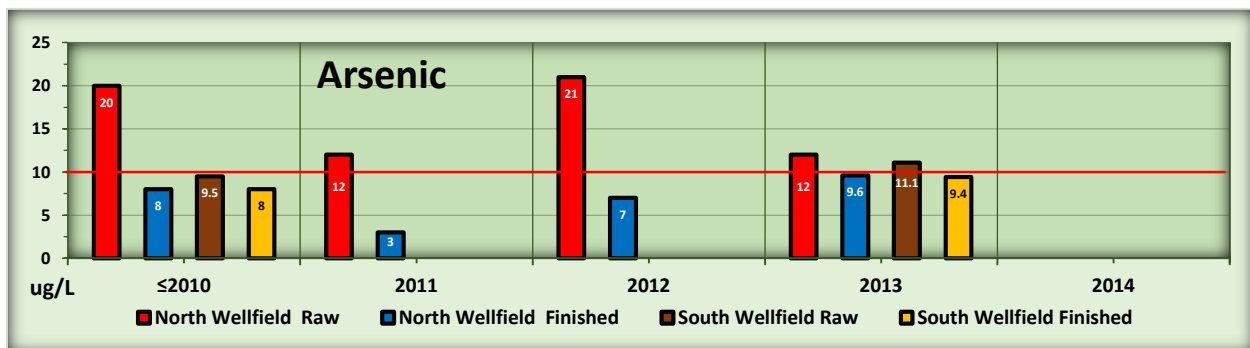
If the temperature is above 60°F the water main will be scheduled for a flush within the next week. If the water temperature is above 65°F it will be scheduled for a flush within the next 24 hours.

If the pH is below 6.8 or above 8.5 the water main will be scheduled for a flush within the next 24 hours.

If the TPO detects a taste or odor condition the water main will be scheduled for a flush within the next 24 hours.

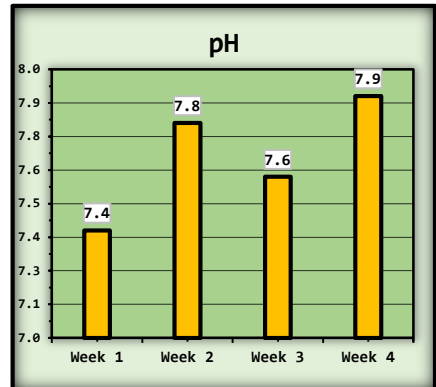
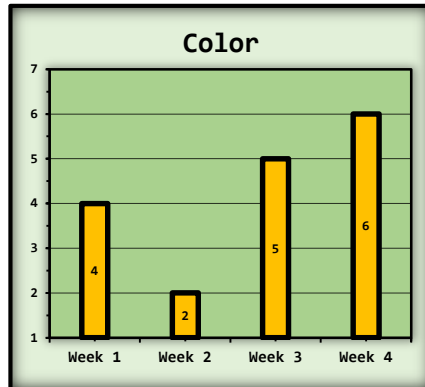
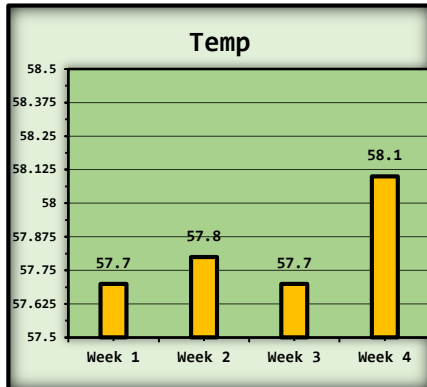
NBWD is scheduled to test for the following contaminants during 2014:

Arsenic: Raw Water arsenic levels are slightly above the MCL (10 ug/L<sup>2</sup>). The Treatment Plant reduces the residuals to below the MCL as the chart below indicates:



<sup>2</sup> Ug/L means: micrograms per liter or part per billion. There are 100,000 drops of water in a gallon. One drop of Arsenic in 1,000 gallons would be approximately 10 ug/L.

Distribution Water Quality:



DWSRF Projects:

**Project 129 - Supply and Treatment Project.** In June the work completed on the Supply and Treatment Project included Engineering on the Wiegardt Well Field Treatment of pilot study and the Aquifer Evaluation Report from Robinson Noble.

DM-952-129 DWSRF		Award Budget	\$ 2,190,631	
Date	Request #	Amount of Request	Remaining Award Balance	Earned Forgiveness
7/12/2013	1	\$ 20,236	\$ 2,170,395	\$ 6,071
7/31/2013	2	\$ 22,808	\$ 2,147,587	\$ 6,842
8/6/2013	3	\$ 2,553	\$ 2,145,034	\$ 766
8/30/2013	4	\$ 38,679	\$ 2,106,356	\$ 11,604
9/30/2013	5	\$ 46,751	\$ 2,059,605	\$ 14,025
11/4/2013	6	\$ 9,134	\$ 2,050,471	\$ 2,740
12/2/2013	7	\$ 4,053	\$ 2,046,418	\$ 1,216
1/7/2014	8	\$ 59,356	\$ 1,987,062	\$ 17,807
2/3/2014	9	\$ 38,558	\$ 1,948,504	\$ 11,567
3/5/2014	10	\$ 22,909	\$ 1,925,595	\$ 6,873
4/7/2014	11	\$ 39,451	\$ 1,886,145	\$ 11,835
5/6/2014	12	\$ 13,061	\$ 1,873,083	\$ 3,918
6/2/2014	13	\$ 9,437	\$ 1,863,647	\$ 2,831
7/8/2014	14	\$ 41,487	\$ 1,822,160	\$ 12,446
		\$ 368,471	\$ 1,822,160	\$ 110,541

**Project 121 - Water Main Project.**

There was no action on the Water Main Project in June, 2014. WSDOT issued a tree mitigation email (see attached) and Pacific County Public Works has approved the restoration of the Right-of-ways by Big River Construction. I have not made contact with the property owners on U Street and Bay Avenue yet. I hope to talk to them before the July 21, 2014 regular meeting.

DM-952-121 DWSRF		Award Budget	\$	<b>891,123</b>
		Loan Fee	\$	<b>8,823</b>
Date	Request #	Amount of Request	Remaining Award Balance	
7/12/2013	1	\$ 34,387	\$	847,913
8/6/2013	2	\$ 12,999	\$	834,915
9/30/2013	3	\$ 19,506	\$	815,408
11/4/2013	4	\$ 9,126	\$	806,282
12/2/2013	5	\$ 8,347	\$	797,935
1/3/2014	6	\$ 86,632	\$	711,303
2/3/2014	7	\$ 177,502	\$	533,800
3/6/2014	8	\$ 141,546	\$	392,254
4/7/2014	9	\$ 130,589	\$	261,665
5/6/2014	10	\$ 12,605	\$	249,060
6/2/2014	11	\$ 4,069	\$	244,991
7/8/2014	12	\$ 7,091	\$	237,900
		\$ 644,400	\$	<b>237,900</b>

**Water Revenue Bond Project Fund:**

No funds were expended for the Water Revenue Bond Project Fund in April.

Bond Project Fund - Opened July 18, 2013		\$	<b>1,162,393</b>	Balance
Date	Description			
1-Sep-14	Reimbursement for bond issuance expense	(\$25,775.00)		\$ 1,136,617.64
1-Dec-14	Reimbursement for Wiegardt Property Purchase	(\$116,874.39)		\$ 1,019,743.25
1-Dec-14	Reimbursement for Driftmier Architects, P.S.	(\$1,606.56)		\$ 1,018,136.69
1-Jan-14	Reimbursement for Driftmier Architects, P.S.	(\$4,775.45)		\$ 1,013,361.24
1-Feb-14	Reimbursement for Driftmier Architects, P.S.	(\$535.46)		\$ 1,012,825.78

**245<sup>th</sup> Street Water Main Loop Project:**

The project will be ready for bid in August, 2014. The 2014 budget has \$20,000 for completion of this project. That estimate was based on cut and trench across

SR 103. The directional drill requirement will add significantly to the project. Mike Johnson is working on an updated engineers estimate. I hope to have that estimate by the July 21, 2014 regular meeting.

### **Water System Plan:**

Chapters 1 - System Description, 2 - Basic Planning Data, and 3 - System Analysis, are ready for review. I have provided comments to Gray and Osborne on the drafts documents. I have included copies of the Chapters in with the report for your review.

### **Rate Study:**

FCS has made significant progress on the rate study. Jack and I had a one hour telephone conference with Angie and Catherine on Wednesday July 16, 2014. The work left to complete includes:

- a comparison of water use impact and rates for different ratepayer classifications (commercial, residential, industrial).
- factor the capital improvement projects costs into the rate structure. The capital improvement projects will be included in the water system plan later this year. The engineers need to complete a hydraulic analysis of the distribution system before we can prioritize and schedule the projects.

I have included a preliminary summary from FCS for your review. The summary assumes rate increases in 2015 through 2020 in the 2.5% range with no capital improvement projects that rate will likely not keep up with inflation.

### **Safety Meeting Minutes:**

North Beach Water District staff meet for their monthly Safety meeting on the first Monday of the Month.

### **Attachments:**

- FCS Preliminary Summary
- Water Sample Results
  - Coliform Bacteria Sample Results
  - Bromate
- DOC Vender Distribution Form for DM12-952-129 (Supply and Treatment Project)
- DOC Vender Distribution Form for DM12-952-121 (Water Main Project)
- WSDOT Tree Mitigation e-mail

**End of Report**

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# North Beach Water District Comprehensive Rate Study Summary

Revenue Requirement	2014	2015	2016	2017	2018	2019	2020
<b>Revenues</b>							
Rate Revenues Under Existing Rates	\$ 1,539,000	\$ 1,543,001	\$ 1,547,013	\$ 1,551,035	\$ 1,555,068	\$ 1,559,111	\$ 1,563,165
Non-Rate Revenues	119,600	120,567	120,874	121,182	121,491	121,800	122,111
<b>Total Revenues</b>	<b>\$ 1,658,600</b>	<b>\$ 1,663,569</b>	<b>\$ 1,667,888</b>	<b>\$ 1,672,218</b>	<b>\$ 1,676,559</b>	<b>\$ 1,680,912</b>	<b>\$ 1,685,276</b>
<b>Expenses</b>							
Cash Operating Expenses	\$ 864,800	\$ 891,643	\$ 916,821	\$ 940,644	\$ 963,995	\$ 987,976	\$ 1,012,603
Existing Debt Service	387,037	390,641	546,586	542,741	534,199	534,529	533,309
New Debt Service	-	-	-	-	-	-	-
Rate Funded System Reinvestment	130,000	200,000	216,000	219,000	222,000	225,000	225,000
<b>Total Expenses</b>	<b>\$ 1,381,837</b>	<b>\$ 1,482,283</b>	<b>\$ 1,679,407</b>	<b>\$ 1,702,385</b>	<b>\$ 1,720,194</b>	<b>\$ 1,747,505</b>	<b>\$ 1,770,912</b>
<b>Net Surplus (Deficiency)</b>	<b>\$ 276,763</b>	<b>\$ 181,285</b>	<b>\$ (11,519)</b>	<b>\$ (30,167)</b>	<b>\$ (43,635)</b>	<b>\$ (66,593)</b>	<b>\$ (85,636)</b>
Additions to Meet Coverage	-	-	-	-	-	-	-
<b>Total Surplus (Deficiency)</b>	<b>\$ 276,763</b>	<b>\$ 181,285</b>	<b>\$ (11,519)</b>	<b>\$ (30,167)</b>	<b>\$ (43,635)</b>	<b>\$ (66,593)</b>	<b>\$ (85,636)</b>
<b>% of Rate Revenue</b>	<b>0.00%</b>	<b>0.00%</b>	<b>0.74%</b>	<b>1.94%</b>	<b>2.81%</b>	<b>4.27%</b>	<b>5.48%</b>
<b>Annual Rate Adjustment</b>	<b>0.00%</b>	<b>2.50%</b>	<b>2.50%</b>	<b>2.50%</b>	<b>2.50%</b>	<b>2.50%</b>	<b>2.50%</b>
<b>Cumulative Annual Rate Adjustment</b>	<b>0.00%</b>	<b>2.50%</b>	<b>5.06%</b>	<b>7.69%</b>	<b>10.38%</b>	<b>13.14%</b>	<b>15.97%</b>
Rate Revenues After Rate Increase	\$ 1,539,000	\$ 1,581,576	\$ 1,625,331	\$ 1,670,296	\$ 1,716,504	\$ 1,763,991	\$ 1,812,792
Additional Taxes from Rate Increase	-	1,940	3,939	5,998	8,119	10,303	12,554
<b>Net Cash Flow After Rate Increase</b>	<b>276,763</b>	<b>217,920</b>	<b>62,859</b>	<b>83,095</b>	<b>109,683</b>	<b>127,984</b>	<b>151,437</b>
Coverage After Rate Increases	3.01	3.02	3.08	3.15	3.25	3.30	3.36
Sample Residential Monthly Bill (3/4" meter, 450 CF)	\$ 49.59	\$ 50.82	\$ 52.10	\$ 53.40	\$ 54.73	\$ 56.10	\$ 57.50
Monthly Average Increase (\$)	\$ -	\$ 1.24	\$ 1.27	\$ 1.30	\$ 1.33	\$ 1.37	\$ 1.40

Fund Balance	2014	2015	2016	2017	2018	2019	2020
<b>OPERATING FUND</b>							
<b>Beginning Balance</b>	\$ 450,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000	\$ 500,000
plus: Net Cash Flow after Rate Increase	276,763	217,920	62,859	83,095	109,683	127,984	151,437
less: Transfer of Surplus to Capital Fund	(226,763)	(217,920)	(62,859)	(83,095)	(109,683)	(127,984)	(151,437)
<b>Ending Balance</b>	<b>\$ 500,000</b>	<b>\$ 500,000</b>	<b>\$ 500,000</b>	<b>\$ 500,000</b>	<b>\$ 500,000</b>	<b>\$ 500,000</b>	<b>\$ 500,000</b>
Minimum Target Balance	\$ 450,000	\$ 450,000	\$ 450,000	\$ 450,000	\$ 450,000	\$ 450,000	\$ 450,000
Days	211	205	200	194	189	185	181
<b>CAPITAL FUND</b>							
<b>Beginning Balance</b>	\$ 2,785,143	\$ 2,819,844	\$ 1,578,783	\$ 300,142	\$ 63,720	\$ (163,780)	\$ (390,875)
plus: Rate Funded System Reinvestment/ Equipment Transfers	130,000	200,000	216,000	219,000	222,000	225,000	225,000
plus: Transfers from Operating Fund	226,763	217,920	62,859	83,095	109,683	127,984	151,437
plus: Grants/ Donations/ CIAC	-	-	-	-	-	-	-
plus: Additional Proceeds (Costs)	-	-	-	-	-	-	-
plus: General Facility Charges	15,000	13,893	13,929	13,966	14,002	14,038	14,075
plus: Net Debt Proceeds Available for Projects	-	-	-	-	-	-	-
plus: Interest Earnings	7,989	8,088	4,528	861	183	-	-
Total Funding Sources	\$ 3,164,895	\$ 3,259,746	\$ 1,876,101	\$ 617,064	\$ 409,588	\$ 203,242	\$ (363)
less: Capital Expenditures	(345,051)	(1,680,963)	(1,575,958)	(553,344)	(573,368)	(594,117)	(615,617)
<b>Ending Working Capital Balance</b>	<b>\$ 2,819,844</b>	<b>\$ 1,578,783</b>	<b>\$ 300,142</b>	<b>\$ 63,720</b>	<b>\$ (163,780)</b>	<b>\$ (390,875)</b>	<b>\$ (615,980)</b>
Minimum Target Balance	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -

SR# V1406110-003



**ALS Environmental**  
1317 S. 13th Avenue • Kelso, WA 98626

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Type of Water System (check only one box)

Group A     Group B     Private Household     Other \_\_\_\_\_

Group A and Group B Systems - Provide from Water Facilities Inventory (WFI):  
ID# 63000C

System Name: North Beach Water

Contact Person: William Neal

Day Phone: 360-665-4144    Cell Phone: 360-244-0068

Eve. Phone: 360-244-0068    FAX: 360-665-4611

Send results to: (Print full name, address and zip code)  
PO Box 618 Ocean Park, WA 98640

#### SAMPLE INFORMATION

Sample collected by (name): Nick Morrison

Specific location where sample collected: NSS#12 232 Birch

Special instructions or comments:

#### Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)

#1.  Routine Distribution Sample

Chlorinated: Yes \_\_\_\_\_ No

Chlorine Residual: Total \_\_\_\_\_ Free \_\_\_\_\_

#2. Repeat Sample (after unsat. routine)

Distribution System

Source Groundwater Rule (GWR) (Population of 1,000 or less)

Unsatisfactory routine lab number: 017

Unsatisfactory routine collect date: \_\_\_\_\_

Chlorinated: Yes \_\_\_\_\_ No \_\_\_\_\_

Chlorine Residual: Total \_\_\_\_\_ Free \_\_\_\_\_

Public systems must provide source number from WFI

#4.  Sample Collected for Information Only

Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

#### LAB USE ONLY DRINKING WATER RESULTS LAB USE ONLY

Unsatisfactory Total Coliform Present and

Satisfactory

E.coli present     E.coli absent

#### Replacement Sample Required:

Sample too old (>30 hours)     TNTC

Improper Container     Turbid culture

Broken bottle

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E.coli \_\_\_\_\_ /100ml.

Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: MICR- \_\_\_\_\_

Date Time and Temp Received: 6/19/14 2 1030

Date Analyzed \_\_\_\_\_

Date Reported: \_\_\_\_\_

Sample Number (DOH number plus five digits) 017-26103

Lab Use Only: 6/20/14

#### INTERPRETATION OF RESULTS FOR DRINKING WATER

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

#### REPORTING OF RESULTS:

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

#### SATISFACTORY RESULTS:

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

#### UNSATISFACTORY RESULTS:

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the IMMEDIATE ACTION REQUIRED by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480.
3. Publicly notify the users of public water systems as specified in WAC 246-290-480.
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

#### TEST UNSUITABLE: Resample Immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible. "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results. "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

#### RESAMPLE:

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.) insufficient volume. (Sample must be at least 100 ml) if not tested, a new sample must be submitted for analysis.

#### FOR ADDITIONAL INFORMATION:

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
Cowlitz County - (360) 414-5599  
Lewis County - (800) 562-6130  
Pacific County - (360) 875-9356

SR# K1906110-007



**ALS Environmental**

1317 S. 13th Avenue • Kelso, WA 98626

**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected <u>6/17/14</u> Month Day Year	Time Sample Collected <u>12:25</u> <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	County <u>Pacific</u>
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Type of Water System (check only one box):  
 Group A     Group B     Private Household     Other \_\_\_\_\_

Group A and Group B Systems – Provide from Water Facilities Inventory (WFI):  
 ID# 63000C

System Name: North Beach Water

Contact Person: William Neal

Day Phone: (360)-665-4144 Cell Phone: (360)-244-0068

Eve. Phone: (360)-244-0068 FAX: (360)-665-4641

Send results to: (Print full name, address and zip code)

PO Box 615 Ocean Park, WA 98640

**SAMPLE INFORMATION**

Sample collected by (name): Nick Morrison

Specific location where sample collected: <u>N55 #-11 240 &amp; Birch</u>	Special instructions or comments:
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Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)

<b>#1. <input checked="" type="checkbox"/> Routine Distribution Sample</b> Chlorinated: Yes _____ No <input checked="" type="checkbox"/> Chlorine Residual: Total _____ Free _____	<b>#2. Repeat Sample (after unsat. routine)</b> <input type="checkbox"/> Distribution System <input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less) Unsatisfactory routine lab number: <u>0 1 7 -</u> Unsatisfactory routine collect date: _____/_____/_____ Chlorinated: Yes _____ No _____ Chlorine Residual: Total _____ Free _____
<b>#3. Raw Water Source Sample</b> <input type="checkbox"/> E.coli – GWR source sample <input type="checkbox"/> Fecal – Surface, GWI, some springs <input type="checkbox"/> Other <div style="border: 1px solid black; width: 50px; height: 20px; margin: 5px auto; text-align: center;">S</div> <small>Public systems must provide source number from WFI</small>	

**#4.  Sample Collected for Information Only**  
 Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

LAB USE ONLY	<b>DRINKING WATER RESULTS</b>	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and <input type="checkbox"/> E.coli present <input type="checkbox"/> E.coli absent	<input checked="" type="checkbox"/> Satisfactory	

Replacement Sample Required:  
 Sample too old (>30 hours)     TNTC     \_\_\_\_\_  
 Improper Container     Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E.coli \_\_\_\_\_ /100ml.  
 Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code MICR- <u>SM9223B</u>	Date, Time and Temp Received: <u>6/19/14 @ 1030</u>
Date Analyzed <u>06/18/14</u>	Date Reported: <u>06/19/14</u>
Sample Number (DOH number plus five digits) <u>0 1 7 - 61104</u>	Lab Use Only: <u>W 6/20/14</u>

**INTERPRETATION OF RESULTS FOR DRINKING WATER**

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

**REPORTING OF RESULTS:**

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

**SATISFACTORY RESULTS:**

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

**UNSATISFACTORY RESULTS:**

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the IMMEDIATE ACTION REQUIRED by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480.
3. Publicly notify the users of public water systems as specified in WAC 246-290-480.
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

**TEST UNSUITABLE:** Resample immediately

“Confluent Growth” means bacteria have grown into a continuous mass which makes counting impossible. “TNC” means bacteria are too numerous to count. “Excess Debris” means that particulates in the water interfere with the interpretation of test results. “Turbid Culture” means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

**RESAMPLE:**

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.) insufficient volume. (Sample must be at least 100 ml) If not tested, a new sample must be submitted for analysis.

**FOR ADDITIONAL INFORMATION:**

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
 Cowlitz County - (360) 414-5599  
 Lewis County - (800) 562-6130  
 Pacific County - (360) 875-9356

SR# K140611.0-005



**ALS Environmental**  
1317 S. 13th Avenue • Kelso, WA 98626

**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected <u>6/17/14</u> Month Day Year	Time Sample Collected <u>12:15</u> <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	County <u>Pacific</u>
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Type of Water System (check only one box)  Private Household

Group A  Group B  Other \_\_\_\_\_

Group A and Group B Systems - Provide from Water Facilities Inventory (WFI):  
ID# 63000C

System Name: North Beach Water

Contact Person: William Neal

Day Phone: (360) 665-4144 Cell Phone: (360) 244-0068

Eve. Phone: (360) 244-0068 FAX: (360) 665-4641

Send results to: (Print full name, address and zip code)  
PO Box 618  
Ocean Park, WA 98640

**SAMPLE INFORMATION**

Sample collected by (name): Aick Morrison

Specific location where sample collected: NSS # - 10  
1212247th

**Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)**

<p><b>#1. <input checked="" type="checkbox"/> Routine Distribution Sample</b></p> <p>Chlorinated: Yes _____ No <input checked="" type="checkbox"/></p> <p>Chlorine Residual: Total _____ Free _____</p>	<p><b>#2. Repeat Sample (after unsat. routine)</b></p> <p><input type="checkbox"/> Distribution System</p> <p><input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less)</p> <p>Unsatisfactory routine lab number: <u>017</u></p> <p>Unsatisfactory routine collect date: _____</p> <p>Chlorinated: Yes _____ No _____</p> <p>Chlorine Residual: Total _____ Free _____</p>
	<p><b>#3. Raw Water Source Sample</b></p> <p><input type="checkbox"/> E. coli - GWR source sample</p> <p><input type="checkbox"/> Fecal - Surface, GWI, some springs</p> <p><input type="checkbox"/> Other</p> <p><u>S</u> _____</p> <p>Public systems must provide source number from WFI</p>

**#4.  Sample Collected for Information Only**

Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

LAB USE ONLY	<b>DRINKING WATER RESULTS</b>	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and		<input checked="" type="checkbox"/> Satisfactory
<input type="checkbox"/> E. coli present <input type="checkbox"/> E. coli absent		

**Replacement Sample Required:**

Sample too old (>30 hours)  TNTC  \_\_\_\_\_

Improper Container  Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E. coli \_\_\_\_\_ /100ml.

Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: <u>MICR- 849223B</u>	Date, Time and Temp Received: <u>6/18/14 1030</u>
Date Analyzed: <u>06/18/14</u>	Date Reported: <u>06/19/14</u>
Sample Number (DOH number plus five digits): <u>017-61105</u>	Lab Use Only: <u>V 6/20/14</u>

**INTERPRETATION OF RESULTS FOR DRINKING WATER**

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

**REPORTING OF RESULTS:**

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

**SATISFACTORY RESULTS:**

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

**UNSATISFACTORY RESULTS:**

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the IMMEDIATE ACTION REQUIRED by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480.
3. Publicly notify the users of public water systems as specified in WAC 246-290-480.
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

**TEST UNSUITABLE:** Resample immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible. "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results. "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

**RESAMPLE:**

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.) insufficient volume. (Sample must be at least 100 ml) If not tested, a new sample must be submitted for analysis.

**FOR ADDITIONAL INFORMATION:**

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
Cowlitz County - (360) 414-5599  
Lewis County - (800) 562-6130  
Pacific County - (360) 875-9356

SR# K140611.0-006



**ALS Environmental**

1317 S. 13th Avenue • Kelso, WA 98626

**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected 6/17/14 Month Day Year	Time Sample Collected 12:05 <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	County Pacific
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Type of Water System (check only one box):  
 Group A     Group B     Private Household  
 Other \_\_\_\_\_

Group A and Group B Systems -- Provide from Water Facilities Inventory (WFI):  
 ID# 630000

System Name: North Beach Water

Contact Person: William Neal

Day Phone: (360) 665-4144    Cell Phone: (360) 244-0068

Eve. Phone: (360) 244-0068    FAX: (360) 665-4141

Send results to: (Print full name, address and zip code)  
P.O. Box 618  
Ocean Park, WA 98640

**SAMPLE INFORMATION**

Sample collected by (name): Nick Morrison

Specific location where sample collected: N55#-9  
27900 0 st

Special instructions or comments:

**Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)**

<p><b>#1. <input checked="" type="checkbox"/> Routine Distribution Sample</b></p> <p>Chlorinated: Yes _____ No <input checked="" type="checkbox"/></p> <p>Chlorine Residual: Total _____ Free _____</p>	<p><b>#2. Repeat Sample (after unsat. routine)</b></p> <p><input type="checkbox"/> Distribution System</p> <p><input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less)</p> <p>Unsatisfactory routine lab number: <u>0 1 7 -</u></p> <p>Unsatisfactory routine collect date: _____</p> <p>Chlorinated: Yes _____ No _____</p> <p>Chlorine Residual: Total _____ Free _____</p>
<p><b>#3. Raw Water Source Sample</b></p> <p><input type="checkbox"/> E. coli - GWR source sample</p> <p><input type="checkbox"/> Fecal - Surface, GWI, some springs</p> <p><input type="checkbox"/> Other</p> <p><u>S</u> _____</p> <p>Public systems must provide source number from WFI</p>	

**#4.  Sample Collected for Information Only**

Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

LAB USE ONLY	<b>DRINKING WATER RESULTS</b>	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and		<input checked="" type="checkbox"/> Satisfactory
<input type="checkbox"/> E. coli present <input type="checkbox"/> E. coli absent		

Replacement Sample Required:

Sample too old (>30 hours)     TNTC     \_\_\_\_\_

Improper Container     Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E. coli \_\_\_\_\_ /100ml.

Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: <u>849223B</u>	Date, Time and Temp Received: <u>6/18/14 @ 1030</u>
MICR- _____	Date Reported: <u>06/19/14</u>
Date Analyzed: <u>06/18/14</u>	Lab Use Only: <u>6/22/14</u>
Sample Number (DOH number plus five digits): <u>0 1 7 - 61106</u>	

**INTERPRETATION OF RESULTS FOR DRINKING WATER**

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

**REPORTING OF RESULTS:**

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

**SATISFACTORY RESULTS:**

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

**UNSATISFACTORY RESULTS:**

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the IMMEDIATE ACTION REQUIRED by a Public System is:

- Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
- Submit repeat samples as specified in WAC 246-290-480.
- Publicly notify the users of public water systems as specified in WAC 246-290-480.
- Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

**TEST UNSUITABLE:** Resample immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible. "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results. "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

**RESAMPLE:**

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.) insufficient volume. (Sample must be at least 100 ml) if not tested, a new sample must be submitted for analysis.

**FOR ADDITIONAL INFORMATION:**

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
 Cowlitz County - (360) 414-5599  
 Lewis County - (800) 562-6130  
 Pacific County - (360) 875-9358

SR# K1406110-007



**ALS Environmental**  
1317 S. 13th Avenue • Kelso, WA 98626

**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected <u>6/17/14</u> Month Day Year	Time Sample Collected <u>11:50</u> <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	County <u>Pacific</u>
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Type of Water System (check only one box)  Private Household  
 Group A  Group B  Other \_\_\_\_\_

Group A and Group B Systems – Provide from Water Facilities Inventory (WFI):  
 ID# 63000C

System Name: North Beach Water

Contact Person: William Neal

Day Phone: (360)-665-4144 Cell Phone: (360)-244-0068

Eve. Phone: (360)-244-0068 FAX: (360)-665-4641

Send results to: (Print full name, address and zip code)  
PO Box 618  
Ocean Park, WA 98640

**SAMPLE INFORMATION**

Sample collected by (name): Nick Morrison

Specific location where sample collected: NSS # - 8  
1719 264th

**Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)**

<p><b>#1. <input checked="" type="checkbox"/> Routine Distribution Sample</b></p> <p>Chlorinated: Yes _____ No <input checked="" type="checkbox"/></p> <p>Chlorine Residual: Total _____ Free _____</p>	<p><b>#2. Repeat Sample (after unsat. routine)</b></p> <p><input type="checkbox"/> Distribution System</p> <p><input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less)</p> <p>Unsatisfactory routine lab number: <u>017</u></p> <p>Unsatisfactory routine collect date: _____/_____/_____</p> <p>Chlorinated: Yes _____ No _____</p> <p>Chlorine Residual: Total _____ Free _____</p>
<p><b>#3. Raw Water Source Sample</b></p> <p><input type="checkbox"/> E.coli – GWR source sample</p> <p><input type="checkbox"/> Fecal – Surface, GWI, some springs</p> <p><input type="checkbox"/> Other</p> <p><u>S</u></p> <p>Public systems must provide source number from WFI</p>	

**#4.  Sample Collected for Information Only**

Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

LAB USE ONLY	<b>DRINKING WATER RESULTS</b>	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and		<input checked="" type="checkbox"/> Satisfactory
<input type="checkbox"/> E.coli present <input type="checkbox"/> E.coli absent		

Replacement Sample Required:

Sample too old (>30 hours)  TNTC  \_\_\_\_\_

Improper Container  Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E.coli \_\_\_\_\_ /100ml.

Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: MICR- <u>Sma9223B</u>	Date, Time and Temp Received: <u>6/19/14 10:30</u>
Date Analyzed: <u>06/18/14</u>	Date Reported: <u>06/19/14</u>
Sample Number (DOH number plus five digits): <u>017-61107</u>	Lab Use Only: <u>6/20/14</u>

**INTERPRETATION OF RESULTS FOR DRINKING WATER**

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

**REPORTING OF RESULTS:**

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

**SATISFACTORY RESULTS:**

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

**UNSATISFACTORY RESULTS:**

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the IMMEDIATE ACTION REQUIRED by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480.
3. Publicly notify the users of public water systems as specified in WAC 246-290-480.
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

**TEST UNSUITABLE:** Resample Immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible. "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results. "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

**RESAMPLE:**

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.) insufficient volume. (Sample must be at least 100 ml) If not tested, a new sample must be submitted for analysis.

**FOR ADDITIONAL INFORMATION:**

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
Cowlitz County - (360) 414-5599  
Lewis County - (800) 562-6130  
Pacific County - (360) 875-9356



SR# 161406110-009



ALS Environmental  
1317 S. 13th Avenue • Kelso, WA 98626

**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected 6/17/14 Month Day Year	Time Sample Collected 11:40 AM AM PM	County Pacific
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Type of Water System (check only one box):  
 Group A     Group B     Private Household  
 Other \_\_\_\_\_

Group A and Group B Systems – Provide from Water Facilities Inventory (WFI):  
 ID# 630000

System Name: North Beach Water

Contact Person: William Neal

Day Phone: (360)-665-4144    Cell Phone: (360)-244-0068

Eve. Phone: (360)-244-0068    FAX: (360)-665-4641

Send results to: (Print full name, address and zip code)  
 PO BOX 618  
 Ocean Park, WA 98640

**SAMPLE INFORMATION**

Sample collected by (name): Nick Morrison

Specific location where sample collected: NSS #7  
26200 Sandridge

**Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)**

<b>#1. Routine Distribution Sample</b> Chlorinated: Yes _____ No <u>X</u> Chlorine Residual: Total _____ Free _____	<b>#2. Repeat Sample (after unsat. routine)</b> <input type="checkbox"/> Distribution System <input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less) Unsatisfactory routine lab number: <u>0 1 7</u> - _____ Unsatisfactory routine collect date: _____ / _____ / _____ Chlorinated: Yes _____ No _____ Chlorine Residual: Total _____ Free _____
	<b>#3. Raw Water Source Sample</b> <input type="checkbox"/> E. coli – GWR source sample <input type="checkbox"/> Fecal – Surface, GWI, some springs <input type="checkbox"/> Other <div style="border: 1px solid black; padding: 2px; display: inline-block;">S</div> <small>Public systems must provide source number from WFI</small>

**#4. Sample Collected for Information Only**  
 Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

<b>LAB USE ONLY</b> <input type="checkbox"/> Unsatisfactory Total Coliform Present and <input type="checkbox"/> E. coli present <input type="checkbox"/> E. coli absent	<b>DRINKING WATER RESULTS</b> <input type="checkbox"/> Satisfactory	<b>LAB USE ONLY</b>
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Replacement Sample Required:  
 Sample too old (>30 hours)     TNTC  
 Improper Container     Turbid culture  
*X Broken Bottle*

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E. coli \_\_\_\_\_ /100ml.  
 Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: MICR- _____	Date, Time and Temp Received: 6/18/14 1030
Date Analyzed: _____	Date Reported: _____
Sample Number (DOH number plus five digits): 0 1 7 - 41108	Lab Use Only: 8/6/14

**INTERPRETATION OF RESULTS FOR DRINKING WATER**

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

**REPORTING OF RESULTS:**

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

**SATISFACTORY RESULTS:**

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

**UNSATISFACTORY RESULTS:**

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the IMMEDIATE ACTION REQUIRED by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480.
3. Publicly notify the users of public water systems as specified in WAC 246-290-480
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

**TEST UNSUITABLE:** Resample immediately  
"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible. "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results. "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

**RESAMPLE:**  
Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.)  
insufficient volume. (Sample must be at least 100 ml)  
If not tested, a new sample must be submitted for analysis.

**FOR ADDITIONAL INFORMATION:**

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
Cowlitz County - (360) 414-5599  
Lewis County - (800) 562-6130  
Pacific County - (360) 875-9356

SR# 12140611.8-007



ALS Environmental  
1317 S. 13th Avenue • Kelso, WA 98626

COLIFORM BACTERIA ANALYSIS

Date Sample Collected 6/17/14 Month Day Year	Time Sample Collected 11:30 AM AM PM	County Pacific
Type of Water System (check only one box) <input checked="" type="checkbox"/> Group A <input type="checkbox"/> Group B <input type="checkbox"/> Private Household <input type="checkbox"/> Other _____		
Group A and Group B Systems - Provide from Water Facilities Inventory (WFI): ID# 63000C		
System Name: North Beach Water		
Contact Person: William Neal		
Day Phone: (360)-665-4144	Cell Phone: (360) 244-0068	
Eve. Phone: (360)-244-0068	FAX: (360)-665-4641	
Send results to: (Print full name, address and zip code) PO Box 618, Ocean Park, WA 98640		

SAMPLE INFORMATION

Sample collected by (name): Nick Morrison

Specific location where sample collected: VSS #6, 3314 281st

Special instructions or comments:

Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)

#1.  Routine Distribution Sample  
 Chlorinated: Yes \_\_\_\_\_ No   
 Chlorine Residual: Total \_\_\_\_\_ Free \_\_\_\_\_

#2. Repeat Sample (after unsat. routine)  
 Distribution System  
 Source Groundwater Rule (GWR) (Population of 1,000 or less)  
 Unsatisfactory routine lab number: 0 1 7 - \_\_\_\_\_  
 Unsatisfactory routine collect date: \_\_\_\_\_/\_\_\_\_\_/\_\_\_\_\_  
 Chlorinated: Yes \_\_\_\_\_ No \_\_\_\_\_  
 Chlorine Residual: Total \_\_\_\_\_ Free \_\_\_\_\_

#3. Raw Water Source Sample  
 E.coli - GWR source sample  
 Fecal - Surface, GWI, some springs  
 Other  
 S \_\_\_\_\_  
 Public systems must provide source number from WFI

#4.  Sample Collected for Information Only  
 Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

LAB USE ONLY	DRINKING WATER RESULTS	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and <input type="checkbox"/> E.coli present <input type="checkbox"/> E.coli absent		<input checked="" type="checkbox"/> Satisfactory

Replacement Sample Required:

Sample too old (>30 hours)     TNTC     \_\_\_\_\_  
 Improper Container     Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E.coli \_\_\_\_\_ /100ml.  
 Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: 929223B MICR-	Date, Time and Temp Received: 6/19/14 1030
Date Analyzed: 06/18/14	Date Reported: 06/19/14
Sample Number (DOH number plus five digits): 0 1 7 - 61109	Lab Use Only: 6/20/14

INTERPRETATION OF RESULTS FOR DRINKING WATER

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

REPORTING OF RESULTS:

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

SATISFACTORY RESULTS:

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

UNSATISFACTORY RESULTS:

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the IMMEDIATE ACTION REQUIRED by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480.
3. Publicly notify the users of public water systems as specified in WAC 246-290-480
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

TEST UNSUITABLE: Resample Immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible. "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results. "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

RESAMPLE:

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.) insufficient volume. (Sample must be at least 100 ml) if not tested, a new sample must be submitted for analysis.

FOR ADDITIONAL INFORMATION:

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
Cowlitz County - (360) 414-5599  
Lewis County - (800) 562-6130  
Pacific County - (360) 875-9356



SR# K1406331-001



**ALS Environmental**  
1317 S. 13th Avenue • Kelso, WA 98626

### COLIFORM BACTERIA ANALYSIS

Date Sample Collected <u>6/23/14</u> Month Day Year		Time Sample Collected <u>12:50</u> <input type="checkbox"/> AM <input checked="" type="checkbox"/> PM	County <u>Pacific</u>
Type of Water System (check only one box) <input checked="" type="checkbox"/> Group A <input type="checkbox"/> Group B <input type="checkbox"/> Private Household <input type="checkbox"/> Other _____		Group A and Group B Systems - Provide from Water Facilities Inventory (WFI): ID# <u>63000C</u>	
System Name: <u>North Beach Water</u>			
Contact Person: <u>William Neal</u>			
Day Phone: <u>(360)-665-4144</u>		Cell Phone: <u>(360)-244-0068</u>	
Eve. Phone: <u>(360)-244-0068</u>		FAX: <u>(360)-665-4641</u>	
Send results to: (Print full name, address and zip code) <u>PO Box 618 Ocean Park, WA 98640</u>			

#### SAMPLE INFORMATION

Sample collected by (name): <u>Robert Hunt</u>				
Specific location where sample collected: <u>N55 #16</u> <u>1311 197th PL</u>	Special instructions or comments:			
Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)				
<input checked="" type="checkbox"/> <b>#1. Routine Distribution Sample</b> Chlorinated: Yes ___ No <input checked="" type="checkbox"/> Chlorine Residual: Total ___ Free ___	<input type="checkbox"/> <b>#2. Repeat Sample (after unsat. routine)</b> <input type="checkbox"/> Distribution System <input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less) Unsatisfactory routine lab number: <u>017</u> Unsatisfactory routine collect date: ___/___/___ Chlorinated: Yes ___ No ___ Chlorine Residual: Total ___ Free ___			
<input type="checkbox"/> <b>#3. Raw Water Source Sample</b> <input type="checkbox"/> <i>E. coli</i> - GWR source sample <input type="checkbox"/> Fecal - Surface, GWI, some springs <input type="checkbox"/> Other <table border="1"><tr><td>S</td><td></td><td></td></tr></table> <small>Public systems must provide source number from WFI</small>	S			
S				
<input type="checkbox"/> <b>#4. Sample Collected for Information Only</b> Investigative ___ Construction / Repairs ___ Other ___				

#### LAB USE ONLY DRINKING WATER RESULTS LAB USE ONLY

<input checked="" type="checkbox"/> Unsatisfactory Total Coliform Present and <input type="checkbox"/> <i>E. coli</i> present <input checked="" type="checkbox"/> <i>E. coli</i> absent	<input type="checkbox"/> Satisfactory
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Replacement Sample Required:

Sample too old (>30 hours)     TNTC     \_\_\_\_\_

Improper Container     Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. *E. coli* \_\_\_\_\_ /100ml.

Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: <u>809223B</u> MICR- <u>809223B</u>	Date, Time and Temp Received: <u>5:24</u> <u>6/24/14 09:00 43</u>
Date Analyzed: <u>06/24/14</u>	Date Reported: <u>06/25/14</u>
Sample Number (DOH number plus five digits) <u>017-63311</u>	Lab Use Only: <u>Called 06/25/14 ✓ 6/26/14</u>

#### INTERPRETATION OF RESULTS FOR DRINKING WATER

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

#### REPORTING OF RESULTS:

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

#### SATISFACTORY RESULTS:

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

#### UNSATISFACTORY RESULTS:

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or *E. coli* are reported present in a sample, the IMMEDIATE ACTION REQUIRED by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480.
3. Publicly notify the users of public water systems as specified in WAC 246-290-480.
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

#### TEST UNSUITABLE: Resample immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible. "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results. "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

#### RESAMPLE:

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.) insufficient volume. (Sample must be at least 100 ml) If not tested, a new sample must be submitted for analysis.

#### FOR ADDITIONAL INFORMATION:

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
Cowlitz County - (360) 414-5599  
Lewis County - (800) 562-6130  
Pacific County - (360) 875-9356

SR# K1406331-002



**ALS Environmental**  
1317 S. 13th Avenue • Kelso, WA 98626

**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected <u>6/23/14</u> Month Day Year	Time Sample Collected <u>12:05</u> AM PM	County <u>Pacific</u>
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Type of Water System (check only one box)

Group A     Group B     Private Household     Other \_\_\_\_\_

Group A and Group B Systems – Provide from Water Facilities Inventory (WFI):  
ID# 63000C

System Name: North Beach Water

Contact Person: William Neal

Day Phone: (360)-665-4144    Cell Phone: (360)-244-0068

Eve. Phone: (360)-244-0068    FAX: (360)-665-4641

Send results to: (Print full name, address and zip code)  
PO Box 618 Ocean Park, WA 98640

**SAMPLE INFORMATION**

Sample collected by (name): Robert Hunt

Specific location where sample collected: N55 #7  
26200 Sandridge Rd

Special instructions or comments:

**Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)**

<p><b>#1. <input checked="" type="checkbox"/> Routine Distribution Sample</b></p> <p>Chlorinated: Yes _____ No <u>X</u></p> <p>Chlorine Residual: Total _____ Free _____</p>	<p><b>#2. Repeat Sample (after unsat. routine)</b></p> <p><input type="checkbox"/> Distribution System</p> <p><input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less)</p> <p>Unsatisfactory routine lab number: <u>017</u></p> <p>Unsatisfactory routine collect date: _____/_____/_____</p> <p>Chlorinated: Yes _____ No _____</p> <p>Chlorine Residual: Total _____ Free _____</p>
<p><b>#3. Raw Water Source Sample</b></p> <p><input type="checkbox"/> E.coli – GWR source sample</p> <p><input type="checkbox"/> Fecal – Surface, GWI, some springs</p> <p><input type="checkbox"/> Other</p> <p><u>S</u> _____</p> <p>Public systems must provide source number from WFI</p>	

**#4.  Sample Collected for Information Only**

Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

LAB USE ONLY	<b>DRINKING WATER RESULTS</b>	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and		<input checked="" type="checkbox"/> Satisfactory
<input type="checkbox"/> E.coli present <input type="checkbox"/> E.coli absent		

**Replacement Sample Required:**

Sample too old (>30 hours)     TNTC     \_\_\_\_\_

Improper Container     Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_/ml. E.coli \_\_\_\_\_/100ml.

Total Coliform \_\_\_\_\_/100ml. Fecal Coliform \_\_\_\_\_/100ml.

Method Code: <u>9209223B</u>	Date, Time and Temp Received: <u>5/24/14 0900 4.3</u>
MIQR: _____	Date Reported: <u>06/25/14</u>
Date Analyzed: <u>06/24/14</u>	Lab Use Only: <u>6/26/14</u>
Sample Number (DOH number plus five digits): <u>017-03312</u>	

**INTERPRETATION OF RESULTS FOR DRINKING WATER**

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

**REPORTING OF RESULTS:**

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

**SATISFACTORY RESULTS:**

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

**UNSATISFACTORY RESULTS:**

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the **IMMEDIATE ACTION REQUIRED** by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480.
3. Publicly notify the users of public water systems as specified in WAC 246-290-480.
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

**TEST UNSUITABLE:** Resample immediately

"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible. "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results. "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

**RESAMPLE:**

Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.) insufficient volume. (Sample must be at least 100 ml) If not tested, a new sample must be submitted for analysis.

**FOR ADDITIONAL INFORMATION:**

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
Cowlitz County - (360) 414-5599  
Lewis County - (800) 562-6130  
Pacific County - (360) 875-9356

SR# K1406321-003



**ALS Environmental**

1317 S. 13th Avenue • Kelso, WA 98626

**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected <u>6/23/14</u> Month Day Year	Time Sample Collected <u>12:25</u> <input checked="" type="checkbox"/> AM <input checked="" type="checkbox"/> PM	County <u>Pacific</u>
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Type of Water System (check only one box):  
 Group A     Group B     Private Household     Other \_\_\_\_\_

Group A and Group B Systems – Provide from Water Facilities Inventory (WFI):

ID# 63000C

System Name: North Beach Water

Contact Person: William Neal

Day Phone: (360)-665-4144 Cell Phone: (360)-244-0068

Eve. Phone: (360)-244-0068 FAX: 360-665-4641

Send results to: (Print full name, address and zip code)

PO Box 618 Ocean Park, WA 98640

**SAMPLE INFORMATION**

Sample collected by (name): Robert Hunt

Specific location where sample collected: <u>NSS # 12</u> <u>23200 Birch</u>	Special instructions or comments:
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**Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)**

<b>#1. <input checked="" type="checkbox"/> Routine Distribution Sample</b> Chlorinated: Yes _____ No <input checked="" type="checkbox"/> Chlorine Residual: Total _____ Free _____	<b>#2. Repeat Sample (after unsat. routine)</b> <input type="checkbox"/> Distribution System <input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less) Unsatisfactory routine lab number: <u>0 1 7 -</u> Unsatisfactory routine collect date: _____ / _____ / _____ Chlorinated: Yes _____ No _____ Chlorine Residual: Total _____ Free _____
<b>#3. Raw Water Source Sample</b> <input type="checkbox"/> E.coli – GWR source sample <input type="checkbox"/> Fecal – Surface, GWI, some springs <input type="checkbox"/> Other S _____ <small>Public systems must provide source number from WFI</small>	

**#4.  Sample Collected for Information Only**  
 Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

LAB USE ONLY	<b>DRINKING WATER RESULTS</b>	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and <input type="checkbox"/> E.coli present <input type="checkbox"/> E.coli absent	<input checked="" type="checkbox"/> Satisfactory	

**Replacement Sample Required:**  
 Sample too old (>30 hours)     TNTC     \_\_\_\_\_  
 Improper Container     Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E.coli \_\_\_\_\_ /100ml.  
 Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: <u>SM9223B</u>	Date, Time and Temp Received: <u>5/24</u>
MICR- <u>SM9223B</u>	<u>6/24/14 0920 43</u>
Date Analyzed: <u>06/24/14</u>	Date Reported: <u>06/25/14</u>
Sample Number (DOH number plus five digits) <u>0 1 7 - 63313</u>	Lab Use Only: <u>6/26/14</u>

**INTERPRETATION OF RESULTS FOR DRINKING WATER**

The analysis performed on this drinking water sample is an examination for the presence of coliform organisms in the water and indicates the bacteriological quality of the sample. The presence of coliform organisms is used by health organizations worldwide as an indicator for the possible presence of other disease causing organisms.

**REPORTING OF RESULTS:**

Group A Public Water Systems must report the results of Drinking Water Analysis to the State as specified in WAC 246-290-480

**SATISFACTORY RESULTS:**

The absence of coliforms from any sample is satisfactory. Proper system maintenance and bacteriological monitoring should be continued routinely to insure the safety of the water supply.

**UNSATISFACTORY RESULTS:**

Any coliform presence is unsatisfactory.

The presence of coliforms indicates the system is not properly protected against contamination and may be unsafe for human consumption. Unsatisfactory samples should be investigated IMMEDIATELY and repeat samples submitted. Contact your local health department or DOH Regional Office for assistance in determining the source of contamination and corrective procedures.

When fecal coliforms or E. coli are reported present in a sample, the IMMEDIATE ACTION REQUIRED by a Public System is:

1. Investigate to determine the cause and correct the situation. Your local health department or DOH Regional Office can assist you.
2. Submit repeat samples as specified in WAC 246-290-480.
3. Publicly notify the users of public water systems as specified in WAC 246-290-480.
4. Contact your local health department or DOH Regional Office as specified in WAC 246-290-480.

**TEST UNSUITABLE:** Resample immediately  
"Confluent Growth" means bacteria have grown into a continuous mass which makes counting impossible. "TNC" means bacteria are too numerous to count. "Excess Debris" means that particulates in the water interfere with the interpretation of test results. "Turbid Culture" means overgrowth of other bacteria can interfere with coliform analysis. If any box indicating an unsuitable test is checked, the presence of coliform bacteria could not be determined and a new sample must be obtained for testing.

**RESAMPLE:**  
Sample too old. (Sample to be tested must be received within 30 hours). Not in proper container. (Bottle to be used for testing must be purchased from a certified lab within 6 months.)  
insufficient volume. (Sample must be at least 100 ml)  
If not tested, a new sample must be submitted for analysis.

**FOR ADDITIONAL INFORMATION:**

Contact your local health department OR the laboratory where this sample was tested OR the Department of Health, Drinking Water Program Regional Office.

Regional DOH - (360) 236-3030  
Cowlitz County - (360) 414-5599  
Lewis County - (800) 562-6130  
Pacific County - (360) 875-9356



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**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected 6/26/14 Month: 6 Day: 26 Year: 14	Time Sample Collected 10:45 AM AM <input checked="" type="checkbox"/> PM <input type="checkbox"/>	County Pacific
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Type of Water System (check only one box)  
 Group A     Group B     Other \_\_\_\_\_  
 Private Household     Other \_\_\_\_\_

Group A and Group B Systems – Provide from Water Facilities Inventory (WFI):  
 ID# 63000C

System Name: North Beach Water

Contact Person: ~~Robert~~ William Neal

Day Phone: (360) 665-4144    Cell Phone: 360 244-0068

Eve. Phone: 360 244-0068    FAX: 360-665-4641

Email: \_\_\_\_\_  
 Send results to: (Print full name, address and zip code)

P.O. Box 618 Ocean Park, WA  
 98640

**SAMPLE INFORMATION**

Sample collected by (name): Robert Hunt

Specific location where sample collected: 2212 272nd PL  
 SO-4  
 Special instructions or comments: \_\_\_\_\_

**Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)**

<p><b>#1. Routine Distribution Sample</b>  <input type="checkbox"/> Chlorinated: Yes _____ No _____  <input type="checkbox"/> Chlorine Residual: Total _____ Free _____</p>	<p><b>#2. Repeat Sample (after unsat. routine)</b>  <input type="checkbox"/> Distribution System  <input checked="" type="checkbox"/> Source Groundwater Rule (GWR)        (Population of 1,000 or less)        Unsatisfactory routine lab number:        0 1 7 - 6 3 3 1 1        Unsatisfactory routine collect date:        6 / 23 / 14        Chlorinated: Yes _____ No <input checked="" type="checkbox"/>        Chlorine Residual: Total _____ Free _____</p>
<p><b>#3. Raw Water Source Sample</b>  <input type="checkbox"/> E.coli – GWR source sample  <input type="checkbox"/> Fecal – Surface, GWI, some springs  <input type="checkbox"/> Other        S _____</p>	

**#4. Sample Collected for Information Only**  
 Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

LAB USE ONLY	<b>DRINKING WATER RESULTS</b>	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and <input type="checkbox"/> E.coli present <input type="checkbox"/> E.coli absent		<input checked="" type="checkbox"/> Satisfactory

Replacement Sample Required:  
 Sample too old (>30 hours)     TNTC     \_\_\_\_\_  
 Improper Container     Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E.coli \_\_\_\_\_ /100ml.  
 Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: S219223B MICR- _____	Date, Time and Temp Received: 5:1 6/26/14 1402
Date Analyzed: 06/26/14	Date Reported: 06/27/14
Sample Number (DOH number plus five digits) 0 1 7 - 64771	Lab Use Only: _____



**ALS Environmental**  
1317 S. 13th Avenue • Kelso, WA 98626

**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected <u>6/26/14</u> Month Day Year	Time Sample Collected <u>10:00</u> <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	County <u>Pacific</u>
Type of Water System (check only one box) <input checked="" type="checkbox"/> Group A <input type="checkbox"/> Group B <input type="checkbox"/> Private Household <input type="checkbox"/> Other _____		
Group A and Group B Systems – Provide from Water Facilities Inventory (WFI): ID# <u>630000</u> System Name: <u>North Beach Water</u> Contact Person: <u>William Neal</u> Day Phone: <u>(360) 665-4144</u> Cell Phone: <u>360 244-0068</u> Eve. Phone: <u>360 244-0068</u> FAX: <u>360 665-4641</u> Email: _____ Send results to: (Print full name, address and zip code) <u>P.O. Box 618 Ocean Park, WA</u> <u>98640</u>		

**SAMPLE INFORMATION**

Sample collected by (name): Robert Hunt

Specific location where sample collected: 1315 197th PL Special instructions or comments: \_\_\_\_\_

**Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)**

<p><b>#1. <input type="checkbox"/> Routine Distribution Sample</b></p> <p>Chlorinated: Yes _____ No _____</p> <p>Chlorine Residual: Total _____ Free _____</p>	<p><b>#2. <input checked="" type="checkbox"/> Repeat Sample (after unsat. routine)</b></p> <p><input checked="" type="checkbox"/> Distribution System</p> <p><input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less)</p> <p>Unsatisfactory routine lab number: <u>017-63311</u></p> <p>Unsatisfactory routine collect date: <u>6/23/14</u></p> <p>Chlorinated: Yes _____ No <input checked="" type="checkbox"/></p> <p>Chlorine Residual: Total _____ Free _____</p>
<p><b>#3. <input type="checkbox"/> Raw Water Source Sample</b></p> <p><input type="checkbox"/> E. coli – GWR source sample</p> <p><input type="checkbox"/> Fecal – Surface, GWI, some springs</p> <p><input type="checkbox"/> Other</p> <p><u>S</u> _____</p> <p>Public systems must provide source number from WFI</p>	

**#4.  Sample Collected for Information Only**

Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

LAB USE ONLY	<b>DRINKING WATER RESULTS</b>	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and <input type="checkbox"/> E. coli present <input type="checkbox"/> E. coli absent		<input checked="" type="checkbox"/> Satisfactory

**Replacement Sample Required:**

- Sample too old (>30 hours)  TNTC  \_\_\_\_\_
- Improper Container  Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E. coli \_\_\_\_\_ /100ml.  
Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Codes MICR- <u>849223B</u>	Date Time and Temp Received: <u>6/26/14 1402</u>
Date Analyzed <u>06/26/14</u>	Date Reported: <u>06/27/14</u>
Sample Number (DOH number plus five digits) <u>017-64772</u>	Lab Use Only: _____



**ALS Environmental**  
 1317 S. 13th Avenue • Kelso, WA 98626

**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected 6/26/14 Month Day Year	Time Sample Collected 10:10 AM PM	County Pacific
--	---	-------------------

Type of Water System (check only one box)  
 Group A     Group B     Other \_\_\_\_\_  
 Private Household

Group A and Group B Systems – Provide from Water Facilities Inventory (WFI):

ID# 63000C  
 System Name: North Beach Water  
 Contact Person: William Neal  
 Day Phone: (360)-665-4144    Cell Phone: (360)-244-0068  
 Eve. Phone: (360)-244-0068    FAX: (360)-665-4641  
 Email:

Send results to: (Print full name, address and zip code)  
 PO Box 618 Ocean Park, WA 98640

**SAMPLE INFORMATION**

Sample collected by (name): Robert Hunt

Specific location where sample collected: 1311 19th PL Ocean Park WA  
 NSS#-16  
 Special instructions or comments:

**Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)**

<p><b>#1. Routine Distribution Sample</b>  <input type="checkbox"/> Routine Distribution Sample          Chlorinated: Yes _____ No _____          Chlorine Residual: Total _____ Free _____</p>	<p><b>#2. Repeat Sample (after unsat. routine)</b>  <input checked="" type="checkbox"/> Distribution System  <input type="checkbox"/> Source Groundwater Rule (GWR)          (Population of 1,000 or less)          Unsatisfactory routine lab number:          017-63311          Unsatisfactory routine collect date:          6/23/14          Chlorinated: Yes _____ No <input checked="" type="checkbox"/>          Chlorine Residual: Total _____ Free _____</p>
<p><b>#3. Raw Water Source Sample</b>  <input type="checkbox"/> E. coli – GWR source sample  <input type="checkbox"/> Fecal –Surface, GWI, some springs  <input type="checkbox"/> Other          S</p>	

**#4. Sample Collected for information Only**  
 Investigative \_\_\_\_\_ Construction / Repairs \_\_\_\_\_ Other \_\_\_\_\_

LAB USE ONLY	<b>DRINKING WATER RESULTS</b>	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and <input type="checkbox"/> E. coli present <input type="checkbox"/> E. coli absent		<input checked="" type="checkbox"/> Satisfactory

**Replacement Sample Required:**  
 Sample too old (>30 hours)     TNTC     \_\_\_\_\_  
 Improper Container     Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E. coli \_\_\_\_\_ /100ml.  
 Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: SM9223B MICR- _____	Date, Time and Temp Received: 6/26/14 1402
Date Analyzed: 6/26/14	Date Reported: 6/27/14
Sample Number (DOH number plus five digits): 017-64773	Lab Use Only:



**ALS Environmental**  
 1317 S. 13th Avenue • Kelso, WA 98626

**COLIFORM BACTERIA ANALYSIS**

Date Sample Collected <b>6/26/14</b> Month Day Year	Time Sample Collected <b>10:25</b> <input checked="" type="checkbox"/> AM <input type="checkbox"/> PM	County <b>Pacific</b>
Type of Water System (check only one box)		
<input checked="" type="checkbox"/> Group A	<input type="checkbox"/> Group B	<input type="checkbox"/> Private Household <input type="checkbox"/> Other _____
Group A and Group B Systems – Provide from Water Facilities Inventory (WFI): ID# <b>63000C</b>		
System Name: <b>North Beach Water</b>		
Contact Person: <b>William Neal</b>		
Day Phone: <b>(360)665-4144</b>	Cell Phone: <b>360244-0068</b>	
Eve. Phone: <b>360244-0068</b>	FAX: <b>360665-4641</b>	
Email: _____		
Send results to: (Print full name, address and zip code)		

**P.O. Box 618 Ocean Park, WA 98640**

**SAMPLE INFORMATION**

Sample collected by (name): <b>Robert Hunt</b>	
Specific location where sample collected: <b>1306 197th PL,</b>	Special instructions or comments:

**Type of Sample (MUST CHECK ONLY ONE BOX OF #1 THROUGH #4 LISTED BELOW)**

<b>#1. <input type="checkbox"/> Routine Distribution Sample</b> Chlorinated: Yes _____ No _____ Chlorine Residual: Total _____ Free _____	<b>#2. Repeat Sample (after unsat. routine)</b> <input checked="" type="checkbox"/> Distribution System <input type="checkbox"/> Source Groundwater Rule (GWR) (Population of 1,000 or less) Unsatisfactory routine lab number: <b>0 1 7 - 63311</b> Unsatisfactory routine collect date: <b>6/23/14</b> Chlorinated: Yes _____ No <input checked="" type="checkbox"/> Chlorine Residual: Total _____ Free _____
<b>#3. Raw Water Source Sample</b> <input type="checkbox"/> E.coli – GWR source sample <input type="checkbox"/> Fecal –Surface, GWI, some springs <input type="checkbox"/> Other <div style="border: 1px solid black; padding: 2px; display: inline-block;">S</div> <small>Public systems must provide source number from WFI</small>	
<b>#4. <input type="checkbox"/> Sample Collected for Information Only</b> Investigative _____ Construction / Repairs _____ Other _____	

LAB USE ONLY	<b>DRINKING WATER RESULTS</b>	LAB USE ONLY
<input type="checkbox"/> Unsatisfactory Total Coliform Present and <input type="checkbox"/> E.coli present <input type="checkbox"/> E.coli absent		<input checked="" type="checkbox"/> Satisfactory

**Replacement Sample Required:**

Sample too old (>30 hours)  TNTC  \_\_\_\_\_  
 Improper Container  Turbid culture

Bacterial Density Results: Plate Count \_\_\_\_\_ /ml. E.coli \_\_\_\_\_ /100ml.  
 Total Coliform \_\_\_\_\_ /100ml. Fecal Coliform \_\_\_\_\_ /100ml.

Method Code: <b>SM9223B</b>	Date, Time and Temp Received: <b>5.1</b>
MICR- <b>06/26/14</b>	<b>6/26/14 1402</b>
Date Analyzed: <b>06/26/14</b>	Date Reported: <b>06/27/14</b>
Sample Number (DOH number plus five digits) <b>0 1 7 - 64774</b>	Lab Use Only:



**ALS Environmental**  
 1317 South 13th Avenue  
 Kelso, WA 98626  
**BROMATE TEST PANEL**  
**(Bromate by EPA Methods 300.1)**  
**for the State of Washington**  
**REPORT OF ANALYSIS**

Date Collected: (MM/DD/YY) <b>06/17/14</b>	System Group Type: (A,B,Other): <b>A</b>
Water System ID Number: <b>63000C</b>	System Name: <b>North Beach Water</b>
Lab Sample Number: <b>01761221</b>	County: <b>Pacific</b>
Sample Location: <b>2212 272st Ocean Park, WA 98646</b>	Source Number(s): <b>S06</b>
<b>Sample Purpose:</b> <b>Select One</b> <input checked="" type="checkbox"/> RC- Routine/Compliance <input type="checkbox"/> C- Confirmation <input type="checkbox"/> Investigative <input type="checkbox"/> Other(specify)	Date Received: <b>06/18/14</b>
	Date Analyzed: <b>06/20/14</b>
	Date Reported: <b>07/03/14</b>
	Comments: <b>K1406122-001</b>
<b>Sample Composition:</b> <b>Select One</b> <input checked="" type="checkbox"/> S- Single Source <input type="checkbox"/> B- Blended (List multiple source numbers) <input type="checkbox"/> C- Composite <input type="checkbox"/> D- Distribution sample	<b>Sample Type: (Select One)</b> <input type="checkbox"/> Pre-Treatment/Raw <input checked="" type="checkbox"/> Post-Treatment/Finished <input type="checkbox"/> Unknown
	Sample Collected by: <b>Nick Morrison</b>
	Phone Number: <b>360-665-4144</b>
Send Report to: <b>North Beach Water</b>	Bill to: <b>Same</b>

DOH #	ANALYTES	RESULTS	UNITS	SRL	TRIGGER	MCL	Method	Analyst
0419	BROMATE	<0.005	mg/L	0.005	0.005	0.010	300.1	NB

**NOTES:**

**SRL (State Reporting Level):** indicates the minimum reporting level required by the Washington Department of Health (DOH).

**Trigger Level:** DOH Drinking Water Response Level. Systems with compounds detected at concentrations in excess of this level are required to take additional samples. Contact your regional DOH office for further information.

**MCL (Maximum Contaminant Level):** If the contaminant amount exceeds the MCL, immediately contact your regional DOH office.

**NA (Not Analyzed):** in the results column indicates this compound was not included in the current analysis.

**ND (Not Detected):** in the results column indicates this compound was analyzed and not detected at a level greater than or equal to the SRL.

**<(0.00X):** indicates the compound was not detected in the sample at or above the concentration indicated.

(lab mdl) lower than the SRL.


**Comments:** \_\_\_\_\_

\_\_\_\_\_


\_\_\_\_\_

\_\_\_\_\_



	<b>WASHINGTON STATE</b> DEPARTMENT OF COMMERCE		AGENCY NUMBER	Short Code	Commerce Contract Number
	Form A19-1A	VOUCHER DISTRIBUTION DEPARTMENT OF COMMERCE PO BOX 42525 OLYMPIA, WA 98504-2525		<b>1030</b>	<b>DM12-952-129</b>

<b>VENDOR OR CLAIMANT (Warrant is to be payable to:)</b>  North Beach Water District PO Box 618 Ocean Park WA, 98640	<b>INSTRUCTIONS TO VENDOR OR CLAIMANT:</b> Submit this form to claim payment for materials, merchandise, or services. Show complete detail for each item.  Vendor's Certificate: The individual signing this voucher below warrants they have the authority to do so as authorized and on the behalf of the entity identified in the Vendor/Client section. The individual signing below certifies under penalty of perjury that the items and totals listed herein are proper charges for materials, merchandise or services furnished to the State of Washington, and that all goods furnished and/or services rendered have been provided without discrimination because of age, sex, marital status, race creed, color, national origin, handicap, religion or Vietnam era or disabled veterans status.
--	---

Contact Person:	Jack McCarty	By: 	(SIGN IN BLUE INK)
Phone:	(360) 665-4144		
Contract Period	11/29/2012 - 11/29/2036		
Report Period	6/2/14 - 6/24/14		
		General Manager (TITLE)	7/8/2014 (DATE)

Original Contract Amount	\$2,190,631
Loan Fee (if any)	\$0

Date	DESCRIPTION	Budget	Previously Requested	Amount of This Invoice	Award Remaining Balance
	Net Contract Amount	\$2,190,631	\$326,984.36		\$1,863,647
	<b>Request #14</b>				
6/2/2014	Invoice #13224.02-15 / Gray & Osborne / Supply & Treatment Project			\$10,295.56	
6/24/2014	Invoice #13224.02-16 / Gray & Osborne / Supply & Treatment Project			\$21,459.47	
6/24/2014	Invoice #13224.01-15 / Gray & Osborne / Well Drilling & Testing			\$2,899.98	
6/4/2014	Invoice #14-482 / Robinson Noble / Weigardt Wellfield Development			\$2,435.75	
	Invoice #14-564 / Robinson Noble / Weigardt Wellfield Development			\$4,396.00	
<b>Totals</b>				<b>\$41,486.76</b>	<b>\$1,822,160</b>

Match: Year / Dollars / Coding				PROGRAM APPROVAL (the individual signing this voucher warrants they have the authority to sign this voucher)				DATE	
DOC DATE		CURRENT DOC. NO.		REFERENCE DOC NO.		VENDOR NUMBER and SUFFIX <b>SWV0110176 00</b>			
ACCOUNT NO.				ASD NUMBER 27010		VENDOR MESSAGE			
TRANS CODE	MASTER	INDEX	SUB OBJ	SUB SUB OBJ	GL	ACCT	SUBSID	AMOUNT	INVOICE
									DM12-952-129
SIGNATURE OF ACCOUNTING PREPARER FOR PAYMENT							DATE		WARRANT TOTAL
ACCOUNTING APPROVAL FOR PAYMENT							DATE		



**From:** [Austin Kelley](#)  
**To:** "Bill Neal"  
**Subject:** Water Main Mitigation Plan  
**Date:** Tuesday, July 08, 2014 3:03:08 PM

---

Bill,

Please see the correspondence below from Dennis Noyes at WSDOT in regards to the required mitigation plan for the tree removal at the intersection of Bay Avenue & U Street.

Please let me know if you have questions or need additional information.

Thanks,

**Austin Kelley, E.I.T.** | 360.292.7481 ext. 1509 | 360.292.7517 (f)

[akelley@g-o.com](mailto:akelley@g-o.com) | [www.g-o.com](http://www.g-o.com)

**Gray & Osborne, Inc** | 2102 Carriage Drive SW, Building I, Olympia, WA 98502

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---

**From:** Noyes, Dennis [mailto:NoyesD@wsdot.wa.gov]  
**Sent:** Thursday, July 03, 2014 8:19 AM  
**To:** Austin Kelley  
**Cc:** Henderson, Rick  
**Subject:** RE: Email Issues

Austin

Please have someone from North Beach Water communicate with the property owner as to the reason for the removal of the tree and at that time please request from the owner a location that they might want to place the trees that are to be planted. If the property owner does not wish to have the new trees on his/her property then we will come out and stake the location for you.

Here is the information regarding the tree planting:

The removal of the large Sitka Spruce tree along SR-103 due to impacts sustained by utility construction should be mitigated by installing three 6-foot container or B&B Sitka Spruce Trees, consistent with WSDOT Roadside Policy. The trees should be planted this fall to avoid watering. Location can be determined in the field to maximize screening of adjacent properties while maintaining highway safety. The three trees should be staked (minimum one stake on the windward side and secured with commercial tree-tie material following industry standards) to avoid tipping during winter and to allow root development.

Please let me know what the property owner would like to do and we can go from there.

Thank you

*Dennis Noyes*



WSDOT  
Utilities Project Delivery Engineer  
Southwest Region Utilities Office  
Phone: 360-905-2298  
Cell: 360-904-3210  
11018 NE 51<sup>st</sup> Cir.  
Vancouver WA 98682-6686

---

**From:** Austin Kelley [<mailto:akelley@g-o.com>]  
**Sent:** Wednesday, July 02, 2014 7:56 AM  
**To:** Noyes, Dennis  
**Subject:** RE: Email Issues

Dennis,

Have you had an opportunity to discuss the tree mitigation requirements with Dan Corlett by chance? And what is the status of the North Beach 245<sup>th</sup> Street request?

Please let me know if you have questions or need additional information.

Thanks,

**Austin Kelley, E.I.T.** | 360.292.7481 ext. 1509 | 360.292.7517 (f)  
[akelley@g-o.com](mailto:akelley@g-o.com) | [www.g-o.com](http://www.g-o.com)  
**Gray & Osborne, Inc** | 2102 Carriage Drive SW, Building I, Olympia, WA 98502

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---

**From:** Noyes, Dennis [<mailto:NoyesD@wsdot.wa.gov>]  
**Sent:** Tuesday, June 10, 2014 3:12 PM  
**To:** Austin Kelley  
**Subject:** RE: Email Issues

Austin

I found out that Dan Corlett is out of the office for last week and this week but I did find out that the planting of trees for mitigation of the tree to be removed is suggested to be done in the fall as it will require no watering plan at that time.

I will send you information when I see Dan next week.

Dennis Noyes

---

**From:** Austin Kelley [<mailto:akelley@g-o.com>]  
**Sent:** Thursday, June 05, 2014 4:14 PM  
**To:** Noyes, Dennis  
**Subject:** Email Issues

Dennis,

Our email service crashed Tuesday morning and was just recently restored. Any emails sent/received during that time have been lost and will not reach their final destination. If you have sent any emails to me since Tuesday morning, then would you mind resending them? My apologies for any inconvenience it has brought to you.

Has a decision been made as to the mitigation plan of the North Beach Water District tree removal within State right of way?

Thanks,

**Austin Kelley, E.I.T.** | 360.292.7481 ext. 1509 | 360.292.7517 (f)

[akelley@g-o.com](mailto:akelley@g-o.com) | [www.g-o.com](http://www.g-o.com)

**Gray & Osborne, Inc** | 2102 Carriage Drive SW, Building I, Olympia, WA 98502

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# CHAPTER 1

## WATER SYSTEM DESCRIPTION

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## CHAPTER 2

### BASIC PLANNING DATA

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## **CHAPTER 2**

### **BASIC PLANNING DATA**

#### **OBJECTIVE**

The objective of this chapter is to present basic planning data and water demand forecasts needed to assess the current and future capabilities of the water system to provide service. This chapter provides existing and projected population, service connections, and water use data, and develops the water demand associated with the planning element known as an Equivalent Residential Unit (ERU). The chapter also includes projected land use and water demands for 6- and 20-year planning periods.

The water use data and water demand forecasts found in this chapter comprise two of the three elements required for the development of a water use efficiency (conservation) program. The third required element is implementation of the water use efficiency (conservation) program and its component parts, which is addressed in Chapter 4.

#### **HISTORIC SYSTEM DEMANDS**

In this section historic system demands are examined in terms of production per capita and per connection for the North Beach Water District. This information is later used to project future water system demands and evaluate water use efficiency.

#### **WATER PRODUCTION**

##### **Monthly Production by Source**

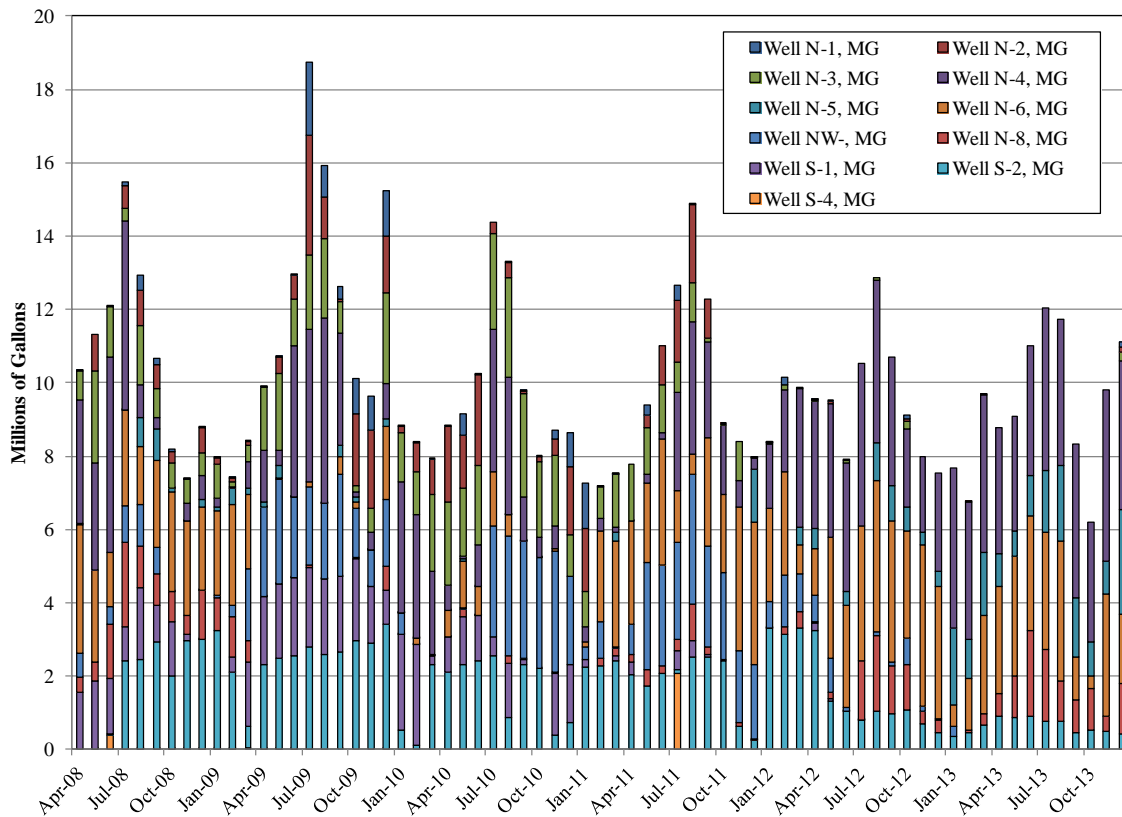
As shown in Table 1-3 NBWD has eleven water sources, one of which (DOH Source S-12, NBWD Well No. S-4) is currently inactive. Production rates for these wells range from 30 gpm to 135 gpm, with a total installed production capacity of 915 gpm. Metered water production data has been obtained and evaluated for the period from April 2008 through December 2013. Monthly production by source is summarized in Figure 2-1.

From the chart it can be seen that the distribution of water production has shifted over the years. For example Well N-6 was a significant contributor to total source capacity between April 2008 and March 2009, but contributed relatively little between April 2009 and January 2011, then became a significant contributor to overall production from February 2011 through December 2013. Well S-1 was a significant contributor prior to January 2011, but has contributed little or nothing since that time. Wells N-1, N-2 and N-3 were regular and sometimes significant contributors to overall production prior to September 2011, but have contributed little or nothing since then. These variations in production distribution reflect both changing well conditions and operator preferences. It

should be noted, however, that total production shows a distinct downward trend, both in average production and in maximum month production.

**FIGURE 2-1**

**Monthly Water Production by Source**



**Total Annual Production**

Total annual production for each well and for all wells is summarized in Table 2-1. Maximum annual production for the data period was 2009, as is also visually evident from Figure 2-1. Annual production declined every year after that through the end of 2013.

**TABLE 2-1****Annual Water Production Records, MG <sup>(1)</sup>**

<b>Well</b>	<b>2008 <sup>(2)</sup></b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
N-1	0.78	6.34	1.82	1.98	0.30	0.15
N-2	4.50	11.57	11.09	8.06	0.15	0.15
N-3	10.87	14.93	24.21	10.42	0.59	0.23
N-4	20.13	20.80	21.03	13.15	37.56	47.12
N-5	2.73	1.91	0.10	1.70	4.83	17.54
N-6	28.71	9.87	5.12	28.74	36.14	27.80
N-7	6.34	20.90	18.87	23.16	6.00	0.27
N-8	11.86	3.33	0.48	2.91	7.86	11.26
S-1	12.65	19.24	14.52	1.78	0.28	0.00
S-2	21.76	30.59	18.89	21.25	20.36	7.68
S-4	0.47	0.07	0.00	2.06	0.00	0.00
<b>Totals</b>	<b>120.81</b>	<b>139.55</b>	<b>116.13</b>	<b>115.20</b>	<b>114.06</b>	<b>112.21</b>

(1) MG is million gallons produced for the indicated year.

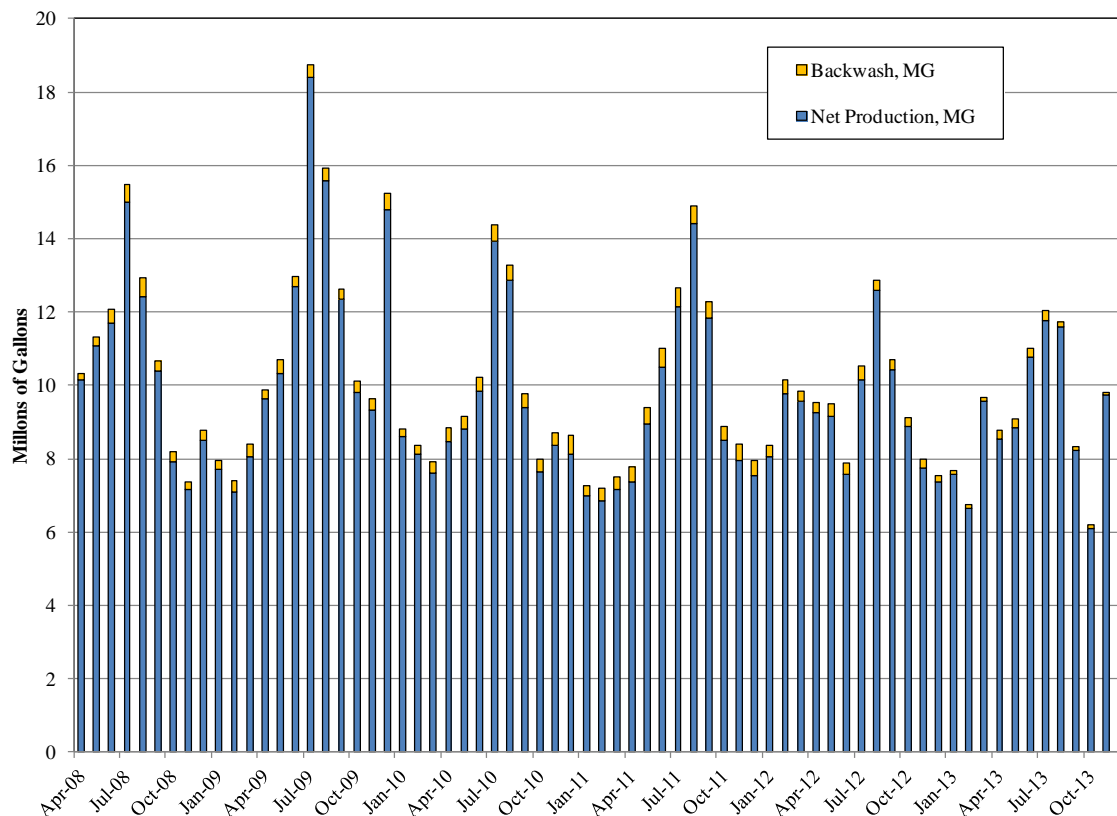
(2) Production data for 2008 is based on data from April 1, 2008 through March 31, 2009, because data for January through March 2008 is not available.

**Filter Backwash and Net Production**

As describe in Chapter 1, both well fields have filtration system that require regular backwashing. Backwash water is discharged to ground, so total well production minus backwash water is the net production available to the water distribution system. Total monthly water production, monthly backwash, and net monthly production are shown in Figure 2-2.

**FIGURE 2-2**

**Total Monthly Production, Backwash and Net Production**



Annual water production, annual backwash and net annual production are summarized in Table 2-2. Backwash ranges from 1.6 percent to 4.3 percent of total water production, with an overall average of 3.1 percent.

**TABLE 2-2**

**Total Annual Production, Backwash and Net Annual Production**

<b>Parameter</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Total Annual Production, MG	120.81	139.55	116.13	115.20	114.06	112.21
Total Annual Backwash, MG	3.60	3.78	4.41	5.00	3.55	1.82
<b>Net Annual Production, MG</b>	<b>117.21</b>	<b>135.78</b>	<b>111.73</b>	<b>110.21</b>	<b>110.51</b>	<b>110.39</b>
Percent Backwash	3.0%	2.7%	3.8%	4.3%	3.1%	1.6%

## Maximum Day Net Production

Daily net production values (total production minus backwash) for 2008 through 2013 were reviewed, and the first, second and third maximum days and the average day values were determined for each year. Table 2-3 summarizes these values in gallons per day (gpd).

**TABLE 2-3**

### Maximum Day to Average Day Ratio

Year	First Maximum, gpd	Second Maximum, gpd	Third Maximum, gpd	Average, gpd	Maximum to Average Ratio
2008	818,959	719,526	708,060	343,141	2.39
2009	1,013,566	874,517	865,540	371,994	2.72
2010	665,015	659,387	632,984	306,096	2.17
2011	666,456	662,833	661,188	301,935	2.21
2012	763,075	594,448	574,149	301,953	2.53
2013	635,286	581,876	571,579	302,442	2.10
				Average	2.35

The highest single day of net water production over the data period was December 15, 2009, creating a maximum day to average day ratio of 2.72. The second and third highest production days over the data period were also in December 2009. From Figures 2-1 and 2-2 it can be seen that December 2009 was an unusually high water production month, particularly for the time of year. It is not known now why December 2009 was such a high production month, or why December 15, 2009 was such a high production day. But from the data it appears that December 2009 was not typical. If we take the second highest day in 2008 we get a second maximum day to average day ratio of 2.35, which is still fairly high.

The second highest maximum day to average day ratio is 2.53 in 2012. The maximum day of 763,075 gpd occurred on February 10, 2012. It is unusual for high production days to occur in winter, and it is not known why this day had such high production. Production on February 9, 2012 was 214,531 gallons and production on February 11, 2012 was 233,697 gallons. If we take the second highest day in 2012 we get a second maximum day to average day ratio of 1.97.

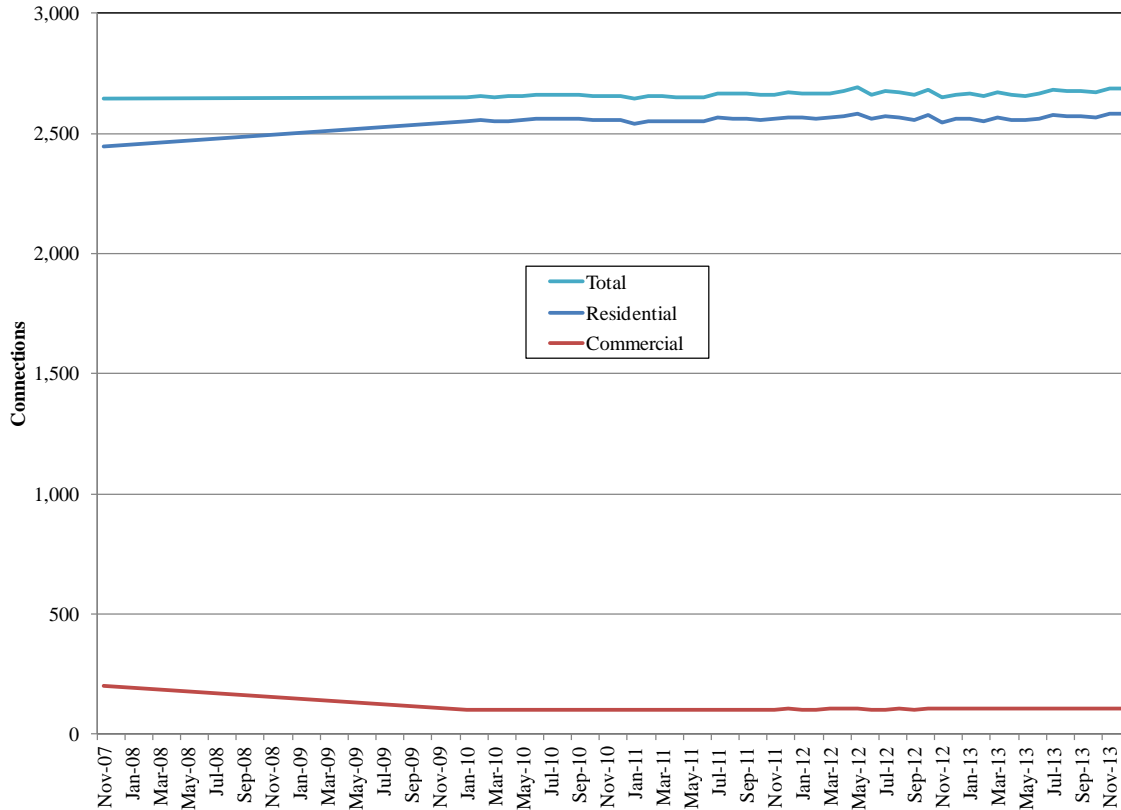
If we take second maximum days for each year we get a range from 1.92 to 2.35. If we take the average of the top three maximum days to the annual averages, we get a range of values from 1.97 to 2.47. If we average the annual maximum day to average day ratios we get an average maximum day to average day ratio of 2.35. **For the purposes of this plan, a maximum day to average peaking factor of 2.35 will be used to estimate maximum day demands.**

## **CONNECTIONS HISTORY**

The Water Facilities Inventory (WFI) dated 11/08/2007 reported 2,444 full time and part time occupied single family residential connections, no multi-family connections, 131 recreational connections, and 69 commercial connections, for a total of 2,644 connections. The current WFI dated 5/5/2014 reports 2,600 full time and part time occupied single family residential connections, 519 full and part-time residential units in 14 multi-family units, no recreational connections and 75 commercial connections, for a total of 3,194 connections. Billing data from January 2010 through December 2013 has residential connections varying from a high of 2,584 to a low of 2,540, and commercial connections varying from a high of 106 to a low of 101, for a total varying from a high of 2,690 to a low of 2,643 total connections. The 2010 through 2013 billing data is a difference of approximately 500 connections from the current WFI numbers because the two systems count connections differently. The billing system does not count individual living units in multi-unit buildings because they are generally served by a single service meter and have a single billing account. Therefore, the current billing number of service connections is approximately the same as it was in 2007. Connections history since November 2007 is shown in Figure 2-3.

**FIGURE 2-3**

**Historic Water Connections**



It can be seen that the total number of connections has remained fairly constant from November 2007 through the present. The chart shows that the number of commercial connections decreased as the number of residential connections increased, but it is not clear that this a real change in commercial and residential connections. The billing system does not have a category for recreational connections, so the recreational connections reported in the 2007 WFI were assigned as commercial for the purpose of this analysis, although many of these may have actually been seasonal residential connections. The increase in total system connections from 2,644 in November 1997 to 2,686 in December 2013 represents an annual growth rate of 0.26%

**CONNECTIONS BY CUSTOMER CLASS**

As discussed above, 131 recreational connections were identified in the 2007 WFI, while no recreational connections are identified in the 2013 WFI. It is probable that the nature of the connections did not change significantly, but rather the way that connections are counted most likely changed. There was a change in system management between 2007 and 2013 that may account for this change. The NBWD billing system only actually

identifies two customer classes: Residential and Commercial. The recreational services identified in the 2007 WFI most likely consisted of some residential and some commercial connections.

**TABLE 2-4**

**Historic Year-End Water Services by Customer Class**

<b>End of Year</b>	<b>Residential Connections</b>	<b>Recreational Connections <sup>(1)</sup></b>	<b>Commercial Connections <sup>(2)</sup></b>	<b>Total Connections</b>
2007	2,444	131	69	2,644
2010	2,554		103	2,657
2011	2,568		104	2,672
2012	2,559		104	2,663
2013	2,581		105	2,686

- (1) The 2007 WFI form identified 131 recreational connections, while the 2013 WFI form does not identify any recreational connections. It is most likely that this only represents a change in the way that connections are counted. The NBWD billing system only identified two categories of customer: Residential and Commercial.
- (2) The 2007 WFI form identified 69 commercial connections, while the 2010-2013 billing records identify 103 to 105 commercial connections. The NBWD billing system does not have a billing category for recreational service. While it is not certain how connections were counted for the 2007 WFI form, it is probable that some commercial connections were counted as recreational and some residential connections were also counted as recreational.

**WATER SALES**

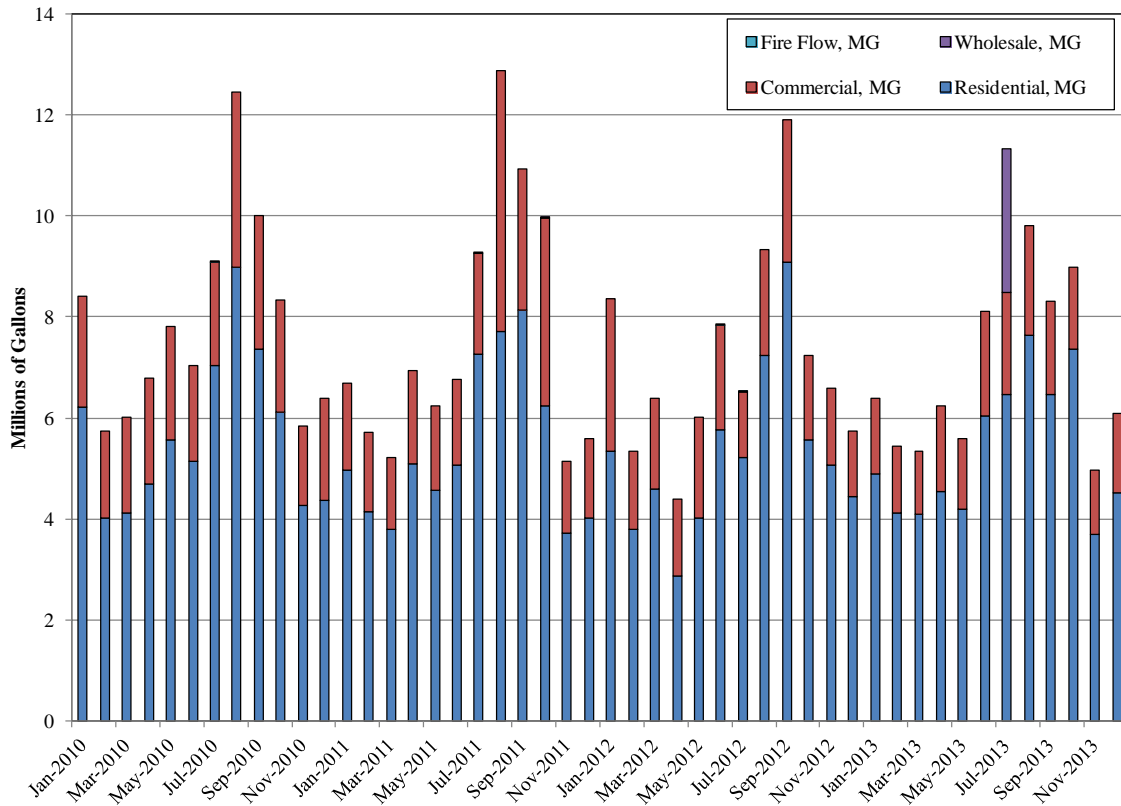
Water sales data has been derived from water billing records from January 2010 through December 2013. Monthly water sales data is shown in Figure 2-4.

It should be noted that in July 2013, a significant volume of water (2.84 MG) went to wholesale water use. Wholesale water use is water used for filling tank trucks, generally for construction purposes. The large wholesale water usage in July 2013 was due to a major cell phone tower construction project for which NBWD supplied water. Small amounts also went to construction projects in July 2011 (0.004 MG) and October 2011 (0.009 MG). Small amounts of water were also used for fire flow in July 2010 and June and July 2012, but these amount were small enough that they are barely discernible in the chart.



**FIGURE 2-4**

**Monthly Water Use**



Annual water usage by category is summarized in Table 2-5.

**TABLE 2-5**

**Annual Water Usage**

<b>Year</b>	<b>Residential, MG</b>	<b>Commercial, MG</b>	<b>Wholesale, MG</b>	<b>Fire Flow, MG</b>	<b>Total, MG</b>
2010	67.818	26.103	0.000	0.007	93.928
2011	64.671	26.603	0.013	0.000	91.288
2012	62.953	22.716	0.000	0.041	85.710
2013	64.030	19.707	2.843	0.000	86.580
Average	64.868	23.782	0.714	0.012	89.377

From Table 2-5, as well as Figure 2-4, it can be seen that the majority of usage is residential, and that annual usage has declined over the data period, with the exception

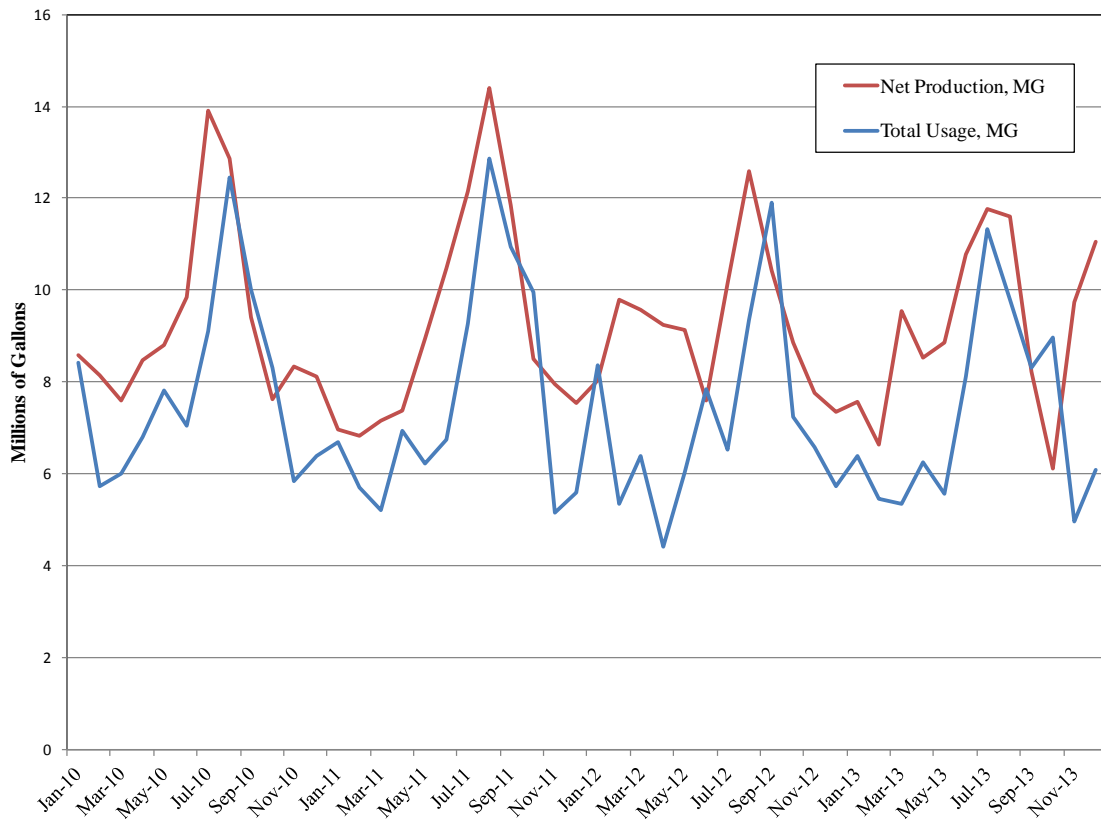
that usage in 2013 was slightly higher than usage in 2012. If the wholesale water use of 2013 were removed, total 2013 usage would be lower than 2012.

### DISTRIBUTION SYSTEM LEAKAGE

Distribution System Leakage (DSL) is defined as the difference between water metered into the distribution system (net production) and water metered out of the distribution system (total usage). Monthly water production and monthly water usage are shown graphically in Figure 2-5.

**FIGURE 2-5**

#### Monthly Net Production and Water Usage



It can be seen that net water production and total water usage generally closely follow each other. Over the data period, water service meters were read in weekly billing cycles such that all meters would be read within any given calendar month. What this means is that water usage periods actually overlap months, and do not exactly coordinate with metered water production periods. Some notable discrepancies are spring of 2012 and spring of 2013 when water production went up while water usage went down. It is not known if these discrepancies represent lost usage data or system leakage or possibly

inaccurate production data. There are also times when water usage exceeds production. These may be partially due to overlapping service meter reading periods and may also be partially due to service meter data errors. Annual net production, water usage and distribution system leakage are summarized in Table 2-6.

**TABLE 2-6**

**Distribution System Leakage**

<b>Year</b>	<b>Net Production, MG</b>	<b>Total Usage, MG</b>	<b>DSL MG</b>	<b>Percent DSL</b>
2010	111.73	93.928	17.80	15.9%
2011	110.21	91.288	18.92	17.2%
2012	110.51	85.710	24.80	22.4%
2013	110.39	86.580	23.81	21.6%

Based on data available, water usage has decreased over the data period while net production has held more or less steady, resulting in increasing DSL. It is not known if this represents actual increase in system leakage or problems with water usage data, or possibly a combination of both.

**EQUIVALENT RESIDENTIAL UNITS**

An Equivalent Residential Unit (ERU) is a way to estimate water usage and evaluate water system capacity based on the typical usage of a single family residence on the water system. The value of an ERU is the average daily usage of single family residential units served by the water system, expressed as gallons per day (gpd).

**WATER USE PER RESIDENTIAL CONNECTION**

Annual residential water use is divided by the average total residential connections for each year, and by 365 days per year to obtain average day water use per residential connection. Table 2-7 summarizes average day residential water use from 2010 through 2013.

**TABLE 2-7**

**Water Use per Residential Connection**

<b>Year</b>	<b>Residential Water Use, MG<sup>(1)</sup></b>	<b>Average Residential Connections<sup>(2)</sup></b>	<b>Average Day Water Use per Residential Connection, gpd</b>
2010	67.818	2,555	72.72
2011	64.671	2,555	69.35
2012	62.953	2,566	67.04
2013	64.030	2,566	68.36
<b>Average</b>			<b>69.37</b>

(1) Residential Water User comes directly from Table 2-5.

(2) Average Residential Connections are used in Table 2-7 because average water use per connection should be based on average number of connections.

Table 2-7 shows residential water use averaging about 70 gpd per connection. This is a very low water use rate, probably indicative of the low occupancy rate of residences in the service area. Many homes in the NBWD area are seasonally occupied or occupied on weekends only. Also, due to the relatively cool and damp weather, outdoor irrigation is minimal in the service area. **For purposes of this water system plan, the value of an ERU will be 70 gpd per ERU.**

**EQUIVALENT RESIDENTIAL UNIT VALUE FOR NON RESIDENTIAL USERS**

Each residential connection is by definition one ERU. Non-residential connections, other non-residential water use, and DSL can all be expressed as ERUs. The total water use for the year for each water use category is divided by the ERU value of 70 gpd and by 365 days per year to get the number of ERUs represented by the water use category. Because the ERU value is small, the number of ERUs represented by non-residential uses is relatively large. The 105 commercial connections in 2013 were equivalent to 771 ERUs. The wholesale water use in 2013 was equivalent to 111 ERUs. DSL in 2013 was equivalent to 932 ERUs.

**TABLE 2-8**

**Equivalent Residential Units for 2013**

<b>Use Category</b>	<b>2013 Use, MG <sup>(1)</sup></b>	<b>2013 Connections <sup>(2)</sup></b>	<b>Average Day Use, gpd <sup>(3)</sup></b>	<b>2013 ERUs <sup>(4)</sup></b>
Residential	64.03	2,581	68	2,581
Commercial	19.71	105	514	771
Wholesale	2.84	0	7,788	111
Fire Flow	0.00	0	0	0
Subtotal, Non-DSL	86.58	2,686	88	3,463
DSL	23.81	0	65,235	932
<b>Total Including DSL</b>	<b>110.39</b>	<b>2,686</b>	<b>113</b>	<b>4,395</b>

(1) Residential, commercial, wholesale, and fire flow use are from Table 2-5. DSL is from Table 2-6.

(2) 2013 connections are from Table 2-4.

(3) Average Day Use for Residential, Commercial, Subtotal, Non-DSL, and Total Including DSL are calculated per connection by taking annual use and dividing by number of connections and by 365 days per year. Average Day Use for wholesale, fire flow and DSL are just annual use divided by 365 days per year because there are no connections.

(4) 2013 ERUs is 2013 Use divided by 70 gpd per ERU and 365 days per year.

**MAXIMUM DAY DEMAND PER ERU**

As discussed above under the heading, **Maximum Day Production**, the estimated maximum day to average day ratio for NBWD is 2.35. With an average day demand per ERU of 70 gpd, the **maximum day demand is estimated at 165 gpd per ERU.**

**PEAK HOUR DEMAND**

Peak Hour Demand (PHD) is a value that applies to the system as a whole, not to any individual service, and is estimated using Equation 5-3 from the Water System Design Manual. This formula estimates peak hour system demands, *not including fire flow*:

$$PHD = (MDD/1440)[(C)(N)+F]+18$$

Where

- PHD = Peak Hour Demand, gallons per minute
- C = Coefficient from Water System Design Manual Table 5-1
- N = Number of ERUs served
- F = Factor from Water System Design Manual Table 5-1
- MDD = Maximum Day Demand per connection, gpd

For a system with more than 500 service connections, C and F are: 1.6 and 225, respectively. As derived above, MDD for the NBWD water system is 165 gpd. Inserting these numbers into the above equation yields the following:

$$PHD = (165/1440)[(1.6)(N)+225]+18$$

This equation simplifies to the following:

$$PHD = 0.183*N+44$$

Using 4,395 estimated ERUs for 2013 from Table 2-8, the estimated peak hour demand for 2013 would be 845 gpm. The above formula will be used to estimate projected peak hour demands.

## SUMMARY OF WATER DEMAND FACTORS

Table 2-9 summarizes water demand factors developed in the preceding sections of this Plan.

**TABLE 2-9**

### Summary of Per Connection Water Demand Statistics

Demand Factor	Value
Average Day Demand per ERU, gpd	70
Maximum Day Demand per ERU, gpd	165
Maximum Day to Average Day Factor	2.35
Peak Hour Demand, gpm	$0.183 \times N + 44$ <sup>(1)</sup>

(1) N is the number of ERUs served by the system.

## FUTURE SYSTEM DEMANDS

To project future NBWD water demands it will be assumed that water use will be proportional to the total number of connections and/or area population. Historic water use factors developed above will be applied to projected full-time equivalent residential connections to estimate future water demands.

## PROJECTED LAND USE

The service area has a mixture of different zoning classifications. The largest portion of the land in the service area is zoned Rural Residential (RR). Other zoning in the service area includes Agricultural (AG), Restricted Residential (R1), General Residential (R2), Conservation (CD), Community Commercial (CC), Resort (R3), Mixed Use (MU), and Industrial (IND). The distribution of zoning is roughly proportional to existing customer category distribution.

## **PROJECTED CONNECTIONS ERUS**

### **County and City Growth Rates**

Historic populations for Pacific County and cities within Pacific County were obtained from the Washington State Office of Financial Management. County population since 1960 and the population of cities within Pacific County since 1968 are shown in Figure 2-6. It can be seen that most of the population of Pacific County lies outside of the incorporated areas of the cities. In fact, less than one third of the Pacific County population lives in cities, while greater than two thirds of the Pacific County population lives in unincorporated areas. Also, over the data period, the populations of the cities have remained relatively flat, while the population of the County has increased. Between 1968 and 2013 the population of incorporated Pacific County areas increased by 12 percent, while the population of unincorporated Pacific County increased by 42 percent. All of the incorporated area population increase took place in the cities of Long Beach and Ilwaco, while the cities of Raymond and South Bend decreased in population.

Since 1968 Pacific County as a whole has grown at an average annual rate of 0.78 percent. From 1994 through 2013 the County average annual growth rate was 0.29 percent. OFM data shows that the population in 2004 and 2013 were both 21,000, so the net growth rate over the past ten years has been zero percent, although the data show that the County population grew to 22,100 in 2010 then declined back to 21,000 by 2013. Unincorporated Pacific County grew at an average annual rate of 1.09 percent between 1968 and 2013, at an average annual rate of 0.35 percent between 1994 and 2013 and at an average annual rate of 0.13 percent between 2004 and 2013.

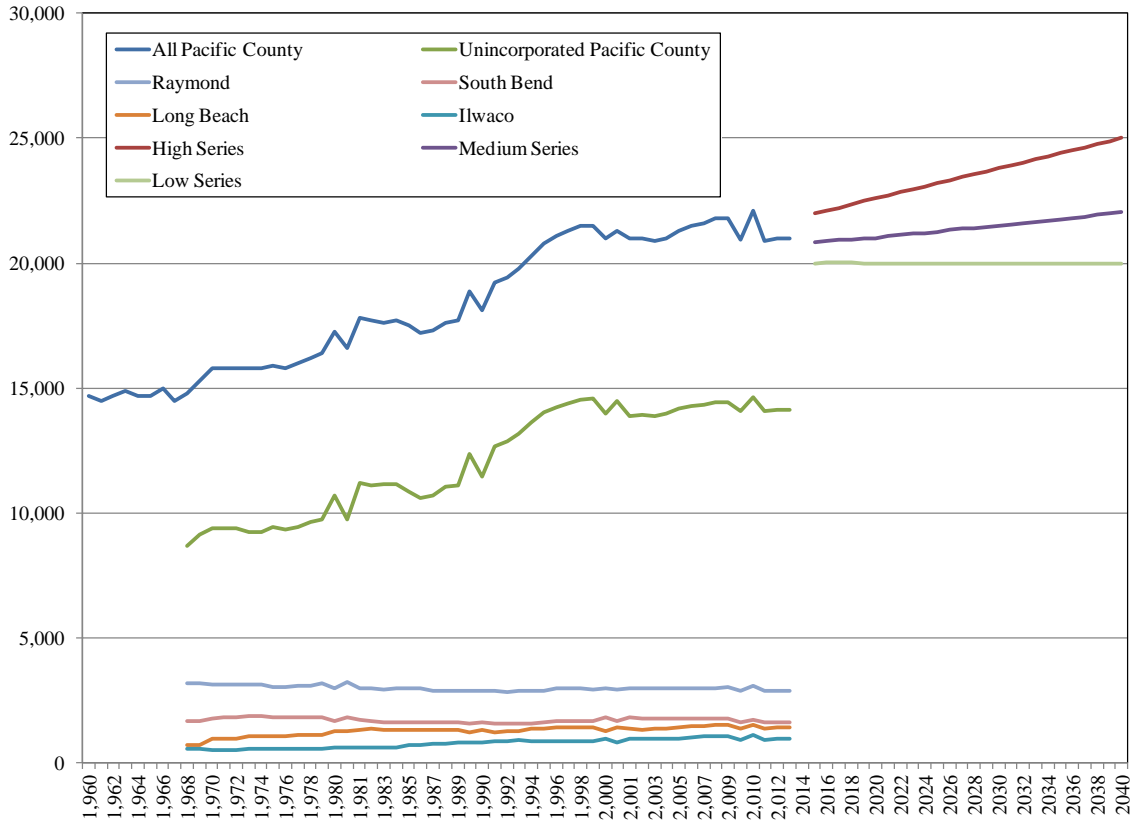
OFM also provides projections of county populations, including low, medium and high series growth projections. The high series projection for Pacific County has population rising from 20,920 in 2010 to 22,000 in 2015, and average annual rate of 1.01 percent, then continuing to rise at a rate of approximately 0.5 percent per year through 2040. The medium series projection for Pacific County has population decreasing from 20,920 in 2010 to 20,860 in 2015, an annual growth rate of -0.06 percent, then growing through 2040 at a rate of 0.1 to 0.3 percent per year. The low series projection for Pacific County has population decreasing from 20,920 in 2010 to 19,999 in 2015, an annual growth rate of -0.90 percent, then remaining more or less constant through 2040. Figure 2-6 shows the high, medium and low Pacific County growth rate projections together with the historic populations discussed above.

### **Pacific County Comprehensive Plan**

The Pacific County 2010 Comprehensive Plan includes population history and growth projections for Ocean Park. Table 2-6 shows that Ocean Park population declined from 827 in 1996 to 679 in 2009, an average annual growth rate of -1.51 percent. The plan further projects growth in Ocean Park to 834 by 2030, an average annual growth of 0.98 percent from 2009.

**FIGURE 2-6**

**Historic Pacific County and City Populations**



**NBWD Growth Projections**

Given the various historic growth rates discussed above, plus the connections history discussed previously, there is a range of possible growth rates that could be considered for NBWD. The average annual growth rate in water system connections between November 1997 and December 2013 was 0.26 percent. The average annual growth in unincorporated Pacific County population was 0.35 percent between 1994 and 2013, and was 0.13 percent between 2004 and 2013. The most directly applicable of these growth rates is the historic NBWD connections, because County growth rates could be happening entirely outside of NBWD or wholly within NBWD, whereas connections data is specific to NBWD. It is also uncertain how good past growth rates are as predictors of future growth rates. On the one hand, as the population ages there may be more people looking to retire in communities like the Ocean Park area, thereby increasing growth rates. On the other hand, remoteness of the location and a lack of employment opportunities may suppress population growth rates.



Given the uncertainties of projected growth rates, the best predictor available for future growth is probably the records recent historic growth. And the most applicable historic growth rate is the 0.26 percent annual growth rate in system connections. Therefore we will project the annual growth rate for NBWD for the coming six year planning period at 0.26 percent.

## **EFFECTS OF WATER CONSERVATION**

It is anticipated that the value of an ERU will change as the system grows. With promotion of water conservation, the water usage represented by an ERU may go down. However, for projection of water system needs it is safer not to assume that water usage per ERU will decrease.

## **PROJECTED NON-REVENUE WATER DEMANDS**

Non-revenue water demands include DSL as well as other water uses such as fire protection and line flushing. As the system upgrades it is reasonable to assume that DSL rates will decrease. On the other hand, as the area grows it is reasonable to assume that fire protection and line flushing water use may increase. For water demand projection purposes it will be assumed that line flushing and fire protection water use will be proportional to system connections, while DSL will decrease over ten years to ten percent of production.

## **WATER RATES AND RATE IMPACTS ON WATER DEMAND**

If the NBWD water rate structure is adjusted in the future, that adjustment may have an impact on water usage. The most likely impact of future rate adjustments would be to promote water conservation. However, water usage within NBWD is already very low, so it is not likely that future rate adjustments will have a great impact on water usage.

## **PROJECTED ERUS**

Non-DSL ERUs are projected to increase at a rate of 0.26 percent per year, from the 2013 value of 3,463 shown in Table 2-8. DSL ERUs are projected as a percent of Total ERUs, beginning in 2015 as the 21.6 percent shown in Table 2-6, and declining to ten percent over ten years. Note that while non-DSL ERUs increase steadily in Table 2-10, total ERUs actually decrease due to the reduction in percent DSL through 2025, then increase at 0.26 percent per year after that.

**TABLE 2-10****Projected ERUs**

<b>Year</b>	<b>Non-DSL ERUs</b>	<b>Percent DSL</b>	<b>DSL ERUs</b>	<b>Total ERUs</b>
2015	3,481	21.6%	959	4,440
2016	3,490	20.4%	894	4,384
2017	3,499	19.3%	837	4,336
2018	3,508	18.1%	775	4,283
2019	3,517	17.0%	720	4,237
2020	3,527	15.8%	662	4,189
2021	3,536	14.6%	605	4,141
2022	3,545	13.5%	553	4,098
2023	3,554	12.3%	498	4,052
2024	3,563	11.2%	449	4,012
2025	3,573	10.0%	397	3,970
2026	3,582	10.0%	398	3,980
2027	3,591	10.0%	399	3,990
2028	3,601	10.0%	400	4,001
2029	3,610	10.0%	401	4,011
2030	3,619	10.0%	402	4,021
2031	3,629	10.0%	403	4,032
2032	3,638	10.0%	404	4,042
2033	3,648	10.0%	405	4,053
2034	3,657	10.0%	406	4,063
2035	3,667	10.0%	407	4,074

- (1) Non-DSL ERUs is the value from Table 2-8 for 2013 increased by 0.26 percent per year.
- (2) Percent DSL begins at 21.6 percent of total production as shown in Table 2-6 for 2013, and is reduced linearly over ten years to ten percent of total production by 2025.
- (3) DSL ERUs is the number of ERUs required such that DSL ERUs divided by Total ERUs yields the Percent DSL shown in the table.
- (4) Total ERUs is Non-DSL ERUs plus DSL ERUs.

**FUTURE WATER DEMAND FOR 6- AND 20-YEAR HORIZONS****Projected Average Day, Maximum Day, and Peak Hour Demands**

Based on historic water use rates and projected ERUs, estimated future NBWD water demands are shown in Table 2-11. Average day demand is based on Total ERUs developed in Table 2-10, times the ADD value of 70 gpd per ERU from Table 2-9. Maximum Day Demand is projected ERUs times the MDD value of 165 gpd per ERU from Table 2-9. Peak Hour Demand is based on the Peak Hour Demand formula from Table 2-9 and the projected ERUs. As with ERUs, the projected average day, maximum day and peak hour demands decline initially due to projected decreases in DSL, then rise with projected growth.

**TABLE 2-11****Projected Water System Demands**

<b>Year</b>	<b>ERUs <sup>(1)</sup></b>	<b>Average Day Demand, gpd <sup>(2)</sup></b>	<b>Maximum Day Demand, gpd <sup>(3)</sup></b>	<b>Peak Hour Demand, gpm <sup>(4)</sup></b>
2015	4,440	311,000	733,000	857
2016	4,384	307,000	723,000	846
2017	4,336	304,000	715,000	837
2018	4,283	300,000	707,000	828
2019	4,237	297,000	699,000	819
2020	4,189	293,000	691,000	811
2021	4,141	290,000	683,000	802
2022	4,098	287,000	676,000	794
2023	4,052	284,000	669,000	786
2024	4,012	281,000	662,000	778
2025	3,970	278,000	655,000	771
2026	3,980	279,000	657,000	772
2027	3,990	279,000	658,000	774
2028	4,001	280,000	660,000	776
2029	4,011	281,000	662,000	778
2030	4,021	281,000	663,000	780
2031	4,032	282,000	665,000	782
2032	4,042	283,000	667,000	784
2033	4,053	284,000	669,000	786
2034	4,063	284,000	670,000	788
2035	4,074	285,000	672,000	790

(1) ERUs come directly from Table 2-10.

(2) Average Day Demand is ERUs times the Average Day Demand value of 70 gpd per ERU from Table 2-9, rounded to the nearest 1,000 gpd.

(3) Maximum Day Demand is ERUs times the Maximum Day Demand value of 165 gpd per ERU from Table 2-9, rounded to the nearest 1,000 gpd.

(4) Peak Hour Demand is based on ERUs and the Peak Hour Demand formula in Table 2-9, rounded to the nearest gpm.

<b>RELATED PLANNING DOCUMENTS.....</b>	<b>15</b>
<b>PREVIOUS WATER SYSTEM PLANS .....</b>	<b>15</b>
<b>COORDINATED WATER SYSTEM PLAN .....</b>	<b>15</b>
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# **CHAPTER 1**

## **WATER SYSTEM DESCRIPTION**

### **OBJECTIVE**

#### **SCOPE OF WORK**

This Water System Plan (Plan) is an update of previous Water System Plans prepared for and adopted by the North Beach Water District (NBWD) in accordance with requirements set forth in Chapter 246-290 WAC (Water Regulations). This Plan is intended to meet all requirements of Part 246-290-100 WAC (Planning Requirements) and as further detailed in the Washington State Department of Health (DOH) Water System Planning Handbook, as well as the needs and concerns of the NBWD Board and Staff. In addition, this Plan addresses State Environmental Policy Act (SEPA) requirements as set forth in Chapter 173-802 WAC.

#### **CHAPTER OBJECTIVE**

The objective of this chapter is to present background information for the NBWD Plan. Subjects covered include the following:

- Ownership and Management
- System Background
- Codes and Bylaws
- Water Rights
- Inventory of Existing Facilities
- Related Planning Documents
- Existing Service Area Characteristics
- Service Area Agreements
- Service Area Policies
- Complaints

Later chapters of this Plan assess the projected water system demands, and current water system capabilities and limits relative to projected demand and regulatory requirements. Chapters address water use efficiency (conservation) requirements, water source protection requirements, water system operations program requirements, and water system design standards. The final chapters of the Plan evaluate capital and non-capital improvement options for the NBWD water system, present a schedule for completing the preferred improvement options, evaluate the cost impact of the improvement schedule on the NBWD budget, and present a financing program for implementing the Plan.

### **OWNERSHIP AND MANAGEMENT**

#### **SYSTEM NAME AND DOH ID NUMBER**

The water system name on the DOH water system database is North Beach Water, and the DOH ID No. is 63000C. North Beach Water was formed from two neighboring water

systems, Ocean Park Water Company (OPWC, DOH ID No. 63000C) and Pacific Water Company (PWC, DOH ID No. 20051V). NBWD retains the DOH identification number of OPWC, while PWC was inactivated on the DOH data system. DOH data system information on the wells, storage and source water quality history of the PWC was transferred to North Beach Water.

**TYPE OF OWNERSHIP**

The District is a public entity and a political subdivision of Pacific County (the County). The District is headed by three Commissioners chosen by general election of registered voters in the District boundaries. Decisions regarding the District management, operation, policies, rates and budget, are made by the Commissioners.

**MANAGEMENT STRUCTURE AND DECISION-MAKING PROCEDURES**

In addition to the three elected District commissioners, District staff consists of a General Manager, an Office Manager, a Billing Clerk, a Field Supervisor, and a Treatment Plant Operator. The Commissioners directly hire the Manager and hire all other District staff subject to recommendation of the Manager. The Manager is responsible for day to day operations of the water system, and reports directly to the Commissioners. All other staff personnel report to the Manager. At the writing of this plan the Commissioners and staff are as follows:

Commissioner .....	Brian Sheldon
Commissioner .....	Gwen Brake
Commissioner .....	Glenn Ripley
General Manager.....	William “Bill” Neal
Office Manager .....	Jack McCarty
Billing Clerk.....	Lisa Larcom
Field Supervisor .....	Robert “Bob” Hunt
Treatment Plant Operator.....	Nick Morrison
Operator .....	Jason Crisifulli

**WATER FACILITIES INVENTORY FORM**

The DOH Water Facilities Inventory (WFI) form for North Beach Water was, as of this writing, last updated on May 5, 2014. A copy of the WFI form is included in Appendix A of this Plan. The WFI form indicates the following:





## **Population Served**

A full-time residential population of 4,010 is indicated. A part time residential population is indicated as ranging from 500 in winter months to 3,000 in summer months. Temporary and transient population is indicated as ranging from 2,200 per month in winter months to 10,000 per month in summer months. A regular non-residential population is indicated as ranging from 490 per month in July to 750 per month in September.

## **SYSTEM BACKGROUND**

### **HISTORY AND SETTING**

#### **Location**

The North Beach Water District is located on the North Beach Peninsula (also known as the Long Beach Peninsula) north of the City of Long Beach. The service area extends from the City of Long Beach on the south, delineated by Cranberry Road, approximately 8 miles to Joe John's Road on the north, and the entire width of the North Beach Peninsula, which varies from about two miles wide at Cranberry Road to about 1.3 miles wide at Joe John's Road. The location of the NBWD water system is shown in Figure 1-1.

#### **FIGURE 1-1 Location Map**

#### **History**

The NBWD water system was formed by the merger of two water systems, Ocean Park Water Company (OPWC, ID No. 63000C) and Pacific Water Company (PWC, ID No. 20051V). OPWC was formed in 1962 with initial plans to serve 300 customers. The first water system plan for OPWC was completed in 1966. The company changed ownership in 1979, and by 1998 it had expanded to serve over 2,200 customers.

PWC was originally formed as Ocean Bay Water Company in 1970. The first water system plan for Ocean Bay Water Company, completed in 1981, planned to serve 279 customers. Ocean Bay Water Company was purchased by PWC in 1987.

In 2004, PWC and OPWC entered into an intertie agreement by which PWC would construct a reservoir and water transmission line to provide fire flow to OPWC. Construction of the intertie was completed in May 2007.

Also in 2004, the North Beach Public Development Authority (NBPDA) was formed for the purpose of assisting the community of Ocean Park to acquire ownership of the water utilities serving the community. In February 2006, the NBPDA acquired ownership of both PWC and OPWC, and the combined system was named North Beach Water. A water system plan for North Beach Water was completed in 2008.

In 2008 the NBWD was formed, ownership of the North Beach Water system was transferred to NBWD, and the NBPDA was disbanded. The combined North Beach Water system retains the identification number of 63000C from the Ocean Park Water Company, and the Pacific Water Company identification number of 20051V has been inactivated.

Since the original formation of the OPWC in 1962 and the PWC in 1970, both systems have added water sources, water storage, water pumping, and water distribution facilities. The North Well Field (NWF), including wells N-1, N-2, N-3, N-4, N-5, N-6, N-7 and N-8, was originally part of the OPWC system. The South Well Field (SWF), including wells S-1, S-2 and S-4, was originally part of the PWC system. Three 179,000-gallon reservoirs located at the NWF Site were originally part of the OPWC system, and one 211,000-gallon reservoir, located at the SWF, was originally part of the PWC system. All reservoirs are ground level with booster pumps to provide system pressure. The NWF booster pump system was part of the OPWC system and the SWF booster pump system was part of the PWC system. In 2002, both OPWC and PWC added treatment for iron and manganese. The treatment system at the NWF was originally part of the OPWC system and the treatment system at the SWF was originally part of the PWC system.

## **Setting**

The climate is classified as the Marine West Coast type, characterized by cool, dry summers and moderate winters, accompanied by considerable rainfall. The majority of the 80 inches annual precipitation occurs during October through April. Temperatures are moderate in winter, 40 degrees to 50 degrees F, and warm during July and August, 70 degrees to 80 degrees F.

Topography of the NBWD area is shown in Figure 1-2. Elevations range from sea level to a high elevation of about 40 feet, with an average elevation of about 20 feet above sea level. Large sand dunes parallel the ocean beach area with lakes, marshes and manmade drainage canals located within the interdunal depressions. Major lakes in the area include Loomis Lake, Island Lake, Lost Lake, Tape Lake, Cranberry Lake, and Mallard Lake. Further inland, boggy areas exist.

### **FIGURE 1-2 Topography**

The geology of this area was first documented in a 1977 report prepared by the U.S. Department of the Interior, Geologic Survey, titled *Groundwater Resources of the North Beach Peninsula, Pacific County, Washington*, report number 77-647. That report, however, is out of publication. More recently, the U.S. Geological Survey published a 1995 report, titled *Groundwater Flow and Water Quality in the Sand Aquifer of Long Beach Peninsula, Washington*, report number 95-4026. This latter report is the only available comprehensive ground water study of the local aquifer.

Soils are primarily deeply weathered and eroded basalt-derived fine sand, gravel, and clay. The upper soil strata are predominantly dune sand with clay lenses to depths of 80 to 180 feet before silt, blue and gray clay, and gravel deposits are reached that extend to basalt layers near a depth of 700 feet.

## **ADJACENT PURVEYORS**

Water purveyors in the vicinity of NBWD are depicted in Figure 1-4. WFI forms for purveyors near NBWD are included in Appendix A and described below.

### **FIGURE 1-3 Nearby Water Systems**

#### **Oysterville – DOH ID #29240X**

This water system is located north of NBWD, and serves a development known as Espy Ridge Tracts. Information regarding this system was obtained from the WFI form for this system, updated June 14, 2013. The WFI indicates that the Oysterville water system is owned by Oysterville Water NP Corp., a homeowners association. According to the WFI, this system serves 26 full-time single-family residential connections, 42 part-time single-family residential connections, no multi-family connections, no recreational connections, and one commercial connection, for a total of 69 active connections, and is approved for up to 99 connections. The WFI indicates a full-time residential population of 70 people, a part-time residential population ranging from 10 to 25 people for 5 to 10 days per month, and a transient population of 90 people per month. The source of supply is a single, 69-foot drilled well with a reported capacity of 40 gallons per minute (gpm). The WFI indicates that no treatment is provided, and that there is 60,000 gallons of storage provided.

#### **Surfside Homeowners Association – DOH ID #86470Y**

This water system is located north of NBWD, and serves the Surfside Estates subdivision as well as several smaller neighboring developments. Information regarding this system was obtained from the WFI form for this system, updated November 6, 2013. The Surfside water system is owned by Surfside Homeowners Association, a non-profit corporation. According to the WFI, this system serves 552 full-time single family residential connections, 679 part-time single family residential connections, 32 apartments, condos or duplexes in 5 multi-family buildings, 948 recreational services, and 6 commercial services, for a total of 2,217 services. The WFI indicates a full-time residential population of 1,405 and a part time residential population ranging from a low of 300 individuals in the winter, to a high of 2,000 individuals in the summer. The WFI further indicates a transient population ranging from 2,000 per month in winter to a high of 10,000 per month during summer. The WFI indicates that the Surfside Homeowners Association water system has seven wells ranging in depth from 180 to 193 feet, with production rates ranging from 120 to 175 gpm. The WFI indicates that the system provides 630,000 gallons of water storage, and provides treatment including chlorination

and filtration. The treatment system is for removal of iron and manganese from the source water.

**City of Long Beach – DOH ID #48000M**

This water system is located south of NBWD, and serves the City of Long Beach. Information regarding this system was obtained from the WFI form for this system, updated November 15, 2013. The City of Long Beach water system is owned by the City of Long Beach, a Code City. According to the WFI, this system serves 1,835 full-time single family residential connections, and 238 commercial services, for a total of 2,073 services. The WFI indicates a full-time residential population of 3,854 and a transient population ranging from 3,000 per month in winter to a high of 15,000 per month during summer. The WFI indicates that the City of Long Beach water system has four surface water sources with capacities ranging from 125 gpm to 686 gpm, and an intertie with the City of Ilwaco with a capacity of 800 gpm. The WFI indicates that the system provides 2,000,000 gallons of water storage, and provides treatment including chlorination and filtration. The treatment system is for compliance with surface water treatment requirements.

**Other Water Systems**

Based on the WSDOH Sentry Internet system there are an additional 13 small public water systems listed as existing within or near the area served by NBWD. These systems are Group B water systems and small Group A water systems. Table 1-1 lists the other small water systems in the vicinity of NBWD.

**TABLE 1-1**

**Other Water Systems In or Near NBWD Service Area**

<b>DOH ID No.</b>	<b>System Name</b>	<b>Group</b>	<b>Residential Population</b>	<b>Total Connections</b>
02243Y	Andersens RV Park	A	0	63
37320E	Ocean Bay Mobile & RV Park	A	5	39
667643	Peggs Oceanside Trailer Park	A	2	32
62998X	Ocean Park Retreat Ctr and U M Cmp	A	0	31
158136	Cranberry RV & Trailer Park	A	6	27
20275P	Dunes Bible Camp	A	6	25
07151C	Dunes Loomis Lake	A	2	13
758878	Sands Motel	B	8	11
655150	Pacific West Mobile Home Park	B	18	10
77757F	Shady Dell Condominiums	B	8	5
76890Y	Sea Mist Apartments	B	10	5
07512C	Blue Horizon Apartments	B	15	5
37094X	Ocean Spray Cranberries	B	0	1

## **WATER RIGHTS**

NBWD has a total of five water rights covering its eleven wells. Four of these water rights (G2-00759C, G2-21399C, G2-25737C, and G2-27073C) come from the OPWC system and one (G2-00174C) comes from the PWC system. Total water available under these rights is 1,035 gpm and 1,008 ac-ft/yr.<sup>1</sup> Copies of water rights certificates are included in Appendix B.

<sup>1</sup> Ac-ft/yr is acre-feet per year. One acre-foot is the amount of water required to cover one acre of area one foot deep. This volume is 43,560 cubic feet. At 7.48052 gallons per cubic foot, one acre-foot is 325,851.4 gallons. One ac-ft/yr is a continuous flow rate of 0.62 gpm. 1,008 ac-ft/yr is a continuous flow rate of 624.9 gpm.

**TABLE 1-2**

**Summary of Water Rights**

<b>Number</b>	<b>Points of Withdrawal</b>	<b>Location</b>	<b>Priority Date</b>	<b>Instantaneous Quantity, gpm</b>	<b>Additive Annual Quantity, ac-ft/yr</b>	<b>Non-Additive Annual Quantity, ac-ft/yr</b>
G2-00174C	S-1, S-2, S-4	N <sup>1</sup> / <sub>2</sub> NE <sup>1</sup> / <sub>4</sub> S33 T12N R11W	12/15/1969	500	168	
G2-00759C	N-1, N-2, N-7, N-8	SW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> S28 T12N R11W	7/14/1965	200	320	
G2-21399C	N-3, N-6	SW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> S28 T12N R11W	8/23/1973	100	128 <sup>(1)</sup>	32 <sup>(1)</sup>
G2-25737C	N-4	SW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> S28 T12N R11W	10/22/1980	130	<sup>(2)</sup>	140
G2-27073C	N-5	SW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> S28 T12N R11W	3/16/1987	105		252
G2-29907P	N-3, N-4, N-5, N-6, N-7, N-8	SW <sup>1</sup> / <sub>4</sub> NE <sup>1</sup> / <sub>4</sub> S28 T12N R11W	3/10/2000	65	80 <sup>(3)</sup>	
<b>Total Water Rights</b>				<b>1,100</b>	<b>696</b>	

- (1) The face of Water Right Certificate G2-21399 indicates an annual right of 160 ac-ft/yr, with no indication of primary, supplemental, additive or non-additive annual quantities. However, under Provisions of Permit G2-21399P issued 8/16/1974, and Certificate G2-21399C issued 11/29/1978, it is stated that the total annual right under water rights G2-21399 and G2-00759 is 448 ac-ft/yr, which makes 32 ac-ft/yr of water right G1-21399 supplemental, or non-additive. Re-issued Certificate G2-21399, dated 12/2/2002, lacks this statement in the provisions, but does state, "All conditions and requirements contained in reports of examination or permits previously issued apply to this certificate unless specifically noted below," and no exception to this provision is noted.
- (2) There is nothing on the face of Certificate G2-25737C to indicate that this right is supplemental or non-additive to prior rights, however, under the provisions of this right it is stated, "Under existing rights there is 448 acre-feet per year as primary right for municipal supply." Also, in the Report of Examination for this right it is recommended that "total annual withdrawal shall not exceed 448 acre-feet per year."
- (3) On Permit G2-29907 under *QUANTITY, TYPE OF USE, PERIOD OF USE*, it is stated, "Both Qi and Qa are additive quantities to the 4 existing certificates for the North Wellfield, totaling 600 gpm and 515 afy." However, on request, Ecology has reviewed this and determined that the stated 515 afy (ac-ft/yr) is in error, and the total annual quantity for the North Wellfield is 528 ac-ft/yr.

**INVENTORY OF EXISTING FACILITIES**

**SOURCE FACILITIES**

NBWD has a total of eleven water wells, one of which is listed as inactive and emergency only. The wells are centered at two locations, the NWF and the SWF, as

described in History above. The wells of the NWF were the sources of supply for OPWC, and the wells of the SWF were the sources of supply for PWC. The eight wells in the NWF are designated wells N-1 through N-8, and the wells in the SWF are designated wells S-1, S-2 and S-4. (There is currently no well S-3.) Copies of well construction reports for all of these wells are included Appendix B. Pertinent information about the wells is summarized in Table 1-3.



**TABLE 1-3**

**Existing Water Sources**

Source Name	DOH Source ID No.	Year Drilled	Casing Diameter, inches	Depth, feet	Screened Interval	Applicable Water Rights	Installed Pumping Capacity (gpm) <sup>(1)</sup>
N-1	S-01	Unknown	8 <sup>(2)</sup>	80 <sup>(2)</sup>	59-79 <sup>(2)</sup>	G2-00759C	100
N-2	S-02	Unknown	6	122	105-120 <sup>(3)</sup>	G2-00759C	100
N-3	S-03	Unknown	Unknown	124	114-124	G2-21399C, G2-29907P	90
N-4	S-04	1981	8	120	100-120	G2-25737C, G2-29907P	135
N-5	S-05	1986	8	124	104-124 <sup>(4)</sup>	G2-27073C, G2-29907P	135
N-6	S-07	1996	8	130	107-127	G2-21399C, G2-29907P	110
N-7	S-08	Unknown	6	120	100-120	G2-00759C, G2-29907P	65
N-8	S-09	1996	8	130	106-126	G2-00759C, G2-29907P	90
S-1	S-10	1964	8	56	41-56	G2-00174C	30
S-2	S-11	1964	8	100	85-100	G2-00174C	60
S-4	S-12	1996	8	121	101-121	G2-00174C	80 <sup>(5)</sup>
<b>Total Installed Source Pumping Capacity</b>							<b>915</b>
<b>Total Installed Source Pumping Capacity with Largest Source out of Service</b>							<b>780</b>

- (1) Well pumping capacities for Wells N-1 and N-2 are based on capacities reported in the Water Facilities Inventory form. Well pumping capacities for Wells N-3 through N-8 are based on field observations on December 14, 2011.
- (2) An undated well log identified in the 2007 water system plan as NWF Well No. 1 indicates the well as having a ten-inch casing, drilled to a depth of 276 feet, completed at 102 feet, and screened between 82 and 102 feet. However, a video inspection of the well dated 3/16/2007 found the well casing to be 8 inches and to be screened between 59 feet and 79 feet.
- (3) Drilled depth is based on an undated, non-standard well construction record identified as Well #2 on Ocean Park Water Company letterhead. Well diameter and screened interval is based on video inspection dated 3/16/2007.
- (4) Well log indicates no screen is installed. However log also indicates well is cased to 104 feet and completed at 124 feet, so it is presumed that the well is screened between 104 and 124 feet.
- (5) 80 gpm is the previously reported capacity for this well, but it is currently listed as inactive and emergency only, so this amount is not added to the total installed pumping capacity.

**TREATMENT**

Two water treatment systems are provided, one at each well field, for the purpose of iron and manganese removal. The two systems are similar in design, the major difference being that the NWF treatment system is larger than the SWF treatment system, due to the

higher production capacity of the NWF. Both treatment systems use ozone as an oxidizing agent, polymer as a filtration aid, and a granular media filtration using a manganese oxide filter medium similar to manganese greensand.

Ozone is generated on site as needed using an air compressor, an oxygen separator, and five ozone generators at the NWF site, and one ozone generator at the SWF site. Ozone is injected into the water and the water subsequently flows up through an ozone contact tank. On exiting the ozone contact tank, polymer is injected into the water and the water then flows down through filtration tanks.

The NWF treatment system consists of four filter trains and the SWF system consists of one filter train, with each filter train consisting of a single 345-gallon ozone contact tank followed by three 345-gallon filter vessels operating in parallel.

Filters at both sites need to be backwashed to remove trapped particulate matter. Two pumps at the NWF site and one pump at the SWF site are dedicated to filter backwash. Filter tanks are backwashed one at a time by switching valves on the tanks to allow reverse flow through the tank. Backwash water from each facility is discharged to a nearby depression where it percolates into the ground.

## **STORAGE**

The NBWD has a total of four reservoirs. All reservoirs are cast-in-place concrete Mount Baker Silos. Three reservoirs are located at the NWF site and one reservoir is located at the SWF site. The NWF reservoirs were all constructed in 1990. All are 26 feet in diameter by 45 feet tall, with nominal capacities of 179,000 gallons each. The SWF reservoir was constructed in 2006, is 30-feet in diameter by 50 feet tall, with a nominal capacity of 211,000 gallons. The combined total gross storage volume is 748,000 gallons. All reservoirs are equipped with interior and exterior ladders with access control, locking access hatches, screened downward-opening vents, and exterior water level indicators. Each reservoir is valved separately from the system to allow for isolation of any reservoir for service.

## **BOOSTER STATIONS**

The storage reservoirs, as described above, are not tall enough to provide adequate system pressure by gravity, so all water must be continuously pumped into the water distribution system to maintain system pressure. The NBWD has two booster pump stations, one located at each well field. The NWF booster pump system consists of eight electric motor driven booster pumps ranging in power 5 hp to 25 hp, plus one 30 hp gasoline engine driven booster pump. All electric powered pumps at the NWF are switched with across-the-line starters, and are set to start in sequence when the pressure at the pump station drops to or below 60 psi. Pumps turn off in sequence when the pressure reaches 75 psi, or when the flow drops below the set point for each pump. Two

additional pumps at the NWF site are dedicated to backwashing filters and are not used to pump to the distribution system.

The SWF booster pump system consists of four electric motor driven booster pumps: two 10 hp pumps and two 30 hp pumps. The two 10 hp pumps are controlled by variable speed drives such that the pump speeds vary to maintain a constant system output pressure of 70 psi. The two 30 hp pumps are switched by solid state “soft” starters.

**TABLE 1-4**

**Pumping Facilities**

<b>Pump ID</b>	<b>Pump Make and Model</b>	<b>Horse-power</b>	<b>Starter Type</b>	<b>Start Criteria</b>	<b>Stop Criteria</b>	<b>Capacity, gpm</b>
<b>North Well Field Booster Pumps</b>						
N-1	Peerless PE-503	5	Hard	≤60 psi	≥70 psi	109
N-2	Peerless PE-833	7.5	Hard	≤58 psi	≥75 psi	120
N-3	Peerless C-820A	15	Hard	≥205 gpm	<205 gpm	280
N-4	Peerless C-825A	25	Hard	≥500 gpm	<500 gpm	500
N-5	Peerless C-825A	25	Hard	≥1,000 gpm	<1,000 gpm	500
N-6	Peerless PE-833	7.5	Hard	≤60 psi	≥75 psi	120
N-7	Peerless PE-833	7.5	Hard	≤58 psi	≥73 psi	120
N-8	Peerless PE-833	7.5	Hard	≤56 psi	≥71 psi	120
Subtotal, NWF electric pumps only						1,869
N-9	Berkeley B21/2 ZQM-30	30	Gasoline engine	Manual	Manual	200
Subtotal, NWF electric and gasoline powered pumps						2,069
<b>South Well Field Booster Pumps</b>						
S-1	PACO 10-12709ES	10	VFD	≤60 psi	≥70 psi	175
S-2	PACO 10-12709ES	10	VFD	≥175 gpm	<175 gpm	175
S-3	PACO 10-30707ES	40	Soft	≥350 gpm	<350 gpm	750
S-4	PACO 10-30707ES	40	Soft	≥750 gpm	<750 gpm	750
Subtotal SWF Pumps						1,850
Total NWF and SWF without gasoline engine powered pump						3,719
Total NWF and SWF with gasoline engine powered pump						3,919
Total capacity with largest pump out of service						3,169

**BACKUP POWER SUPPLY**

Four emergency standby generators are provided to keep the water system operation in the event of a power outage. Two 150 KW Katolight diesel generators are located at the NWF and one 150 KW Katolight diesel generator is located at the SWF. In addition one 30 KW generator is also located at the SWF. These generators are capable of powering all facilities at both well sites with the exception of Well S-2. Well S-2 is located remote from the remainder of the SWF facilities and has a separate electrical service, so cannot

be powered from the main SWF site. All four generators have automatic start and power transfer capabilities on loss of power to the site.

## **TRANSMISSION AND DISTRIBUTION SYSTEM**

### **Description**

Transmission and distributions facilities consist of over 25 miles of pipes ranging in size from 2 inches to 12 inches in diameter. Piping installed prior to 1980 was a mixture of asbestos concrete (A-C) pipe and polyvinyl chloride (PVC) pipe. In the early 1980s the standard was changed to a minimum of 160 psi pressure rated PVC pipe. Distribution system facilities are shown in Figure 1-4.

**FIGURE 1-4 Existing Distribution System**

### **Pipe Inventory**

**TABLE 1-5**

#### **Pipe Size and Length**

<b>Pipe Diameter (inches)</b>	<b>Approximate Length of Pipe in System (lineal ft.)</b>
2-inch	
4-inch	
6-inch	
8-inch	
10-inch	
<b>Total</b>	

### **INTERTIES**

NBWD currently has no interties with neighboring water utilities. To make an intertie viable, the water mains feeding to the intertie location need to be capable of transmitting enough water to make the intertie worth considering. Currently there is a separation of approximately 1.2 miles by road between the adequately sized water mains in NBWD and Surfside HOA water systems, approximately 2 miles between NBWD and Oysterville Water, and approximately 2.7 miles between NBWD and City of Long Beach water mains. The cost of installing water mains for these distances make interties between these utilities infeasible at this time. If and when development brings existing water mains closer, interties may become feasible in the future.

## **RELATED PLANNING DOCUMENTS**

### **PREVIOUS WATER SYSTEM PLANS**

In 2007 a water system plan for North Beach Water was prepared by TJF & Associates of Olympia, Washington. That plan was approved by DOH by letter dated November 12, 2008. The 2007 Plan was the first plan prepared for the combined OPWC/PWC water system. Prior to the 2007 Plan, water system plans had been prepared separately for OPWC and PWC. According to the 2007 Plan, the first water system plan for OPWC was approved by the State Board of Health January 31, 1966, and the last water system plan prepared by OPWC was dated December 1998. Also according to the 2007 Plan, the first water system plan prepared for OBWC (former name of PWC) was approved on July 23, 1981, and the last water system plan prepared for PWC was completed in August 1994.

### **COORDINATED WATER SYSTEM PLAN**

**Economic and Engineering Services, Inc. in Association with American Engineering Associates, Pacific County Long Beach Peninsula Coordinated Water System Plan, August 1985.**

This document was developed to coordinate the planning and development of water facilities in order to provide future water service in the most efficient and effective manner possible. It outlines physical features, land use and zoning, population, water consumption, and describes existing water systems. It provides specific information regarding source, storage, distribution system requirements, minimum design standards, service areas, and review procedures. It discusses regional issues and provides recommendations. The Pacific County Long Beach Peninsula Coordinated Water System Plan was never adopted by Pacific County, so while it is a useful source of information, it has no legal standing.

### **GMA RELATED PLANS, POLICIES, AND DEVELOPMENT REGULATIONS**

**Pacific County, Washington – Comprehensive Plan, Final Draft, October 1998.**

This document is intended as a reference guide to the public and is intended to notify citizens, the development community, builders, and other government agencies of how the county is directing its energies and resources to manage growth. It seeks to establish a clear intent and policy base that can be used to develop and interpret county regulations.

**Pacific County, 1998 GMA Comprehensive Plan Final Environmental Impact Statement, August 1998.**

This document includes the mandated elements on land use and rural areas, critical areas and resource lands, housing, transportation, capital facilities, and utilities. The document also includes a section on Siting Essential Public Facilities.

## **ADJACENT PURVEYOR WATER SYSTEM PLANS**

Two other water systems in the vicinity of NBWD are required to complete a water system plan, including Surfside HOA on the north and City of Long Beach on the south.

## **WATERSHED PLANNING – WRIA 24, WILLAPA**

Willapa Watershed, WRIA 24, is a non-2514 planning basin. There are no watershed-planning activities related to this basin.

## **ANALYSIS OF COMPATIBILITY WITH EXISTING PLANS**

Pursuant to the GMA, Pacific County and its constituencies worked together to adopt *County-Wide Planning Policies*. These policies address issues such as urban growth, affordable housing, economic development, and public facilities to achieve consistency between County and City Comprehensive Plans. It is the intent of this Water System Plan to be consistent with county wide planning policies.

## **EXISTING SERVICE AREA CHARACTERISTICS**

Historically, Pacific County has been dominated by the timber and shellfish industries. As the timber industry has subsided in the area, the overall economic base for the county has declined. The North Beach Peninsula relies predominantly on tourism, cranberry production, shellfish industry, retirement and government employment for its economic base, and the North Beach Peninsula has become a popular tourist destination. NBWD serves a large number of seasonally occupied homes and tourism related businesses.

## **EXISTING SERVICE AREA**

WAC 246-290-010 defines “Existing Service Area” as “a specific area within which direct service or retail service connections to customers of a public water system are currently available.” For water service to be currently available to a parcel, the parcel must be already served, or a water main must front the property. The current existing service area is shown in Figure 1-5.

## **FUTURE SERVICE AREA**

Future Water Service Area is defined in WAC 246-290-010 as “a specific area a public water system plans to provide water service. This is determined by a written agreement between purveyors under WAC 246-293-250 (Water Utility Coordination Act) or by the purveyor's elected governing board or governing body if not required under WAC 246-293-250.” All future service area boundaries were tentatively established by the *Pacific County Long Beach Coordinated Water System Plan (CWSP)*. The NBWD Future Water Service Area extends approximately eight miles from Cranberry Road on the south to Joe John’s Road on the north, and from the Pacific Ocean on the west to Willapa Bay on the

east, a distance that varies from approximately 1.3 to 2.1 miles. The area encompassed is approximately 8,500 acres. A map of the existing and future NBWD service area is provided in Figure 1-5.

## **RETAIL SERVICE AREA**

Retail Service Area is defined in WAC 246-290-010 as “the specific area defined by the municipal water supplier where the municipal water supplier has a duty to provide service to all new service connections. This area must include the municipal water supplier's existing service area and may also include areas where future water service is planned if the requirements of RCW 43.20.260 are met.” Since NBWD does not wholesale water to any other water purveyor, the existing retail service area is synonymous with the existing service area, and the future retail water service area is synonymous with the future service area.

### **FIGURE 1-5 Service Area**

## **SERVICE AREA AGREEMENTS**

An Interlocal Service Area Agreement normally formalizes service area boundaries in a Critical Water Supply Service Area. However, since the Pacific County Commissioners have never formally adopted the Long Beach Peninsula CWSP, there is no binding mandate to honor service area boundaries. It has, nevertheless, been the practice of purveyors on the Long Beach Peninsula to honor the service areas designated by the CWSP, and there are no known territorial disputes regarding service areas.

## **EXISTING LAND USE**

NBWD service area contains a mix of land uses. The system serves 2,600 single family residences, 519 residences in multi-family housing units, and 75 non-residential connections. Existing land use is shown in Figure 1-6.

### **FIGURE 1-6 Existing Land Use**

## **ZONING AND FUTURE LAND USE**

The *Long Beach Peninsula Comprehensive Land Use Plan* sets forth zoning for the service area. This document was adopted in October 1998. The most recent amendment to County Zoning was Land Use Ordinance No. 153, adopted on March 8, 2004. Zoning in the NBWD service area is primarily Rural Residential (RR-1) and Restricted Residential (R-1), with substantial areas also zoned Agricultural (AG) and Conservation (CD). There are also areas zoned Resort (R3) and two areas zoned Industrial (IND). Zoning is shown in Figure 1-7.

### **FIGURE 1-7 Zoning**

## **WATER SYSTEM POLICIES**

The Planning Handbook recommends that water system plans address, at a minimum, the following water system policies:

- Wholesaling Water
- Wheeling Water
- Annexation
- Direct Connection and Satellite/Remote Systems
- Design Performance Standards
- Surcharge for Outside Customers
- Formation of Local Improvement Districts Outside Legal Boundaries
- UGA
- Late-Comer Agreements
- Oversizing
- Cross-Connection Control Program
- Extension
- Duty to Serve

The *Pacific County Long Beach Peninsula Coordinated Water System Plan (CWSP)*, while never formally adopted, has been used as a guide for service area boundaries and extension policies. In addition, the NBWD has adopted a written set of Rules and Regulations, most recently revised September 16, 2013. These regulations address many water service area policies. The following sections discuss the policies of NBWD with regard to the above items

## **COORDINATED WATER SYSTEM PLAN**

The establishment of service area boundaries by the CWSP includes two basic obligations:

- County and state government should recognize each utility as the responsible agency for providing all public water service within the designated area by Interlocal Agreement, and,
- It is the utility's responsibility for providing satisfactory water service within a reasonable time frame to customers within that geographical area designated as their future service area.

If the CWSP had been adopted for this geographical area, no new water systems would be allowed within a utility's designated future service area unless the existing utility was unable or unwilling to provide service. The County and utilities in the Long Beach Peninsula have been operating in the spirit of the 1985 CWSP, although, since the plan was never adopted by the County, it has no legal standing.



## **NBWD RULES AND REGULATIONS**

The NBWD Rules and Regulation address a wide range of water system operations, maintenance and customer relations issues. These rules and regulations cover many, though not all, of the service area policies listed above from the Planning Handbook, as well as many issues not listed in the Planning Handbook. A copy of the NBWD Rules and Regulation is included in Appendix C of this Plan. Following is a summary of how the NBWD Rules and Regulations address the policy list from the Planning Handbook.

### **Wholesaling Water**

NBWD Rule 1.01.210 addresses wholesaling of water. The rule includes Paragraphs A through G. The first sentence of paragraph A reads as follows:

“The Board may, at its discretion, authorize water service to a community or number of individual users to be furnished through a common meter upon finding that service through individual meters is not practical.”

The rule goes on to spell out specific conditions to be met by wholesale customers.

### **Wheeling Water**

Wheeling of water consists of allowing two outside water systems to exchange water through the NBWD water system pipes. NBWD does not currently wheel water and has no formal policy regarding this issue. NBWD will evaluate any future requests to wheel water through the NBWD system on a case-by-case basis.

### **Annexation**

Parcels not currently included in the NBWD district boundaries must annex to the District to receive direct water service from the District.

### **Direct Connection and Satellite/Remote Systems**

NBWD will provide piped water to any platted parcel on request for service and payment of applicable fees. If water mains are not present at the parcel, the applicant may apply to extend water mains as necessary to obtain service, or the applicant may request that NBWD install a water main extension at the applicant’s cost. NBWD does not wish to have separate water systems installed within their service area and does not wish to be a satellite water system operator.

## **Design Performance Standards**

NBWD has developed minimum water system construction standards. A copy of these standards is included in Appendix D. An outline of these standards is provided Chapter 7.

## **Surcharge for Outside Customers**

NBWD does not provide water service outside of its jurisdictional boundary and therefore has no outside rates.

## **Formation of Local Improvement Districts Outside Legal Boundaries**

Cities form Local Improvement Districts and special purpose districts from Utility Local Improvement Districts, or ULIDs. The NBWD corporate boundaries encompass the entire NBWD future service area. Therefore, there should be no future instance in which NBWD provides water service outside their corporate boundaries. If circumstances should change in the future, it is anticipated that any area outside the District corporate boundaries would need to annex to the District as a condition of service. In that case it is anticipated that annexation would occur prior to establishment of a ULID, and the ULID would not be formed outside the district boundaries. However, if and when this circumstance should occur, the details would need to be worked out at that time.

## **UGA**

The Planning Handbook explains the UGA questions as whether or not the District will help finance water main extensions that help to meet the water service goals of the UGA. NBWD Rules and Regulations Section 1.01.260 *Service Connection – No main in street* states that water main extensions shall be installed at the cost of the party requesting water service. The only exception to this is section 1.01.240 which allows for low income property owners to make installment payments on connection charges.

## **Late-Comer Agreements**

Late-comer agreements are addressed in NBWD Rules and Regulations Section 1.01.260. An individual installing a water main may request a latecomer agreement requiring properties fronted by the water main installed by the developer to pay a portion of the cost of the water mains as a condition for connecting to the water main. Latecomer agreements are effective for a period of up to fifteen years.

## **Oversizing**

NBWD has no written policy concerning oversizing waterlines. Oversizing is not likely to become an issue for NBWD unless major extensions are made in the future into undeveloped areas. Where oversizing of developer constructed waterlines is in the best

interest of the water utility, the NBWD will consider funding the additional cost of larger lines and appurtenances on a case by case basis.

### **Cross-Connection Control Program**

NBWD Rules and Regulations Section 1.01.100 address cross connections control. The rule states that cross connections are prohibited, and that owners of existing or potential cross-connection hazards that cannot be eliminated must have a proper backflow prevention device installed, inspected, and regularly tested. Chapter 6 further elaborates on program details.

### **Extension**

NBWD Rules and Regulations Section 1.01.260 address water main extensions. The rules state, in part, that water main extensions shall be constructed by the District or in accordance with the Rules and Regulations of the District and subject to approval of the District Manager. A party wishing water service where there is no existing water main may request the District to extend the water main, or may install the water main using a private contractor, subject to District approval. In either case, service will be provided after the main has been installed and tested, and the party requesting service has paid all applicable fees and reimbursed the District for its costs.

### **Duty to Serve**

The North Beach Water District recognizes its duty to provide water service within its designated service area in a timely and reasonable manner, as required by the Municipal Water Law.

## **CONDITIONS OF SERVICE**

### **Purveyor Responsibilities**

NBWD will provide service for lots within NBWD service area subject to the availability of water and the number of approved connections permitted by DOH, payment of fees as adopted by the NBWD Board, and, if necessary, completion of any water main extension necessary to obtain water service.

### **Customer Responsibilities**

NBWD Rules and Regulations spell out numerous responsibilities that customers have to NBWD. Some of these responsibilities are summarized below:

**Code**

**Section**

**Customer Responsibility**

1.01.060	Use water only for the purposes specified in their application for service
1.01.070	Not waste water
1.01.075	Maintain the service line between the water meter and place of use
1.01.090	Restrict irrigation water usage during fire emergencies
1.01.100	Prevent cross connections
1.01.140	Allow for inspection of premises for conformance with rules
1.01.160	Maintain separation of sewer facilities from water facilities
1.01.340	Pay water service charges when due

**CONNECTION FEE SCHEDULE**

Two fees are applicable to new water service connections: Water installation Fee and General Facilities Charge. These fees are set by District Regulations 1.01.190 and 1.01-350, respectively. Connection fees are summarized in Table 1-6 below.

**TABLE 1-6**

**Connection Fee Schedule**

<b>Connection Fee</b>	<b>¾-Inch Meter</b>	<b>1-Inch Meter</b>	<b>1½-Inch Meter</b>	<b>2-Inch Meter</b>	<b>3-Inch Meter</b>	<b>4-Inch Meter</b>
Meter Installation Fee	\$650	\$800	\$1,500	\$2,500	(1)	(1)
General Facilities Charge	\$1,234	\$2,075	\$4,140	\$6,337	\$7,209	\$10,914

(1) Priced at time of request

**METER AND MATERIAL SPECIFICATIONS**

All materials and methods must comply with the NBWD standard specifications, as outlined in Chapter 7. A copy of these standards is included in Appendix E.

**CONSENT AGREEMENTS FOR INSPECTION, MAINTENANCE AND REPAIRS THAT DISRUPT SERVICE**

NBWD Rules and Regulations Section 1.01.120 states that the district may reduce or interrupt water service without prior notice in emergency situations.

**CROSS-CONNECTION CONTROL REQUIREMENTS**

Applications for water service are screened by NBWD to determine whether NBWD will require cross-connection control devices as a condition of service. Cross-connection control Rules and Regulations are included in Section 1.01.100 of the NBWD Rules and Regulations.

## **DEVELOPER EXTENSION REQUIREMENTS, DESIGN STANDARDS, FINANCIAL RESPONSIBILITY, P.E. DESIGN REQUIRED**

NBWD Rules and Regulations section 1.01.260 outlines the requirements for design and construction of water mains to be installed by developers and other independent third parties.

## **COMPLAINTS**

### **POLICY FOR DEALING WITH COMPLAINTS**

Complaints may be submitted in writing at the NBWD office, called in by phone to the NBWD Office, or sent in by email to the NBWD Office. Complaints are forwarded to the District Manager for investigation. The Field Supervisor makes contact with the complainant, investigates the complaint when necessary, resolves the complaint when possible, or recommends a solution to the District Manager. The District Manager is responsible for recording the resolution of the complaint in the complaint log. Complaints unresolved by the Field Supervisor or the District Manager may be appealed to the NBWD Board.

### **COMPLAINT RECORD KEEPING**

Telephone and written complaints are logged by NBWD office staff and forwarded to the General Manager and the Field Supervisor. The telephone logs and written complaints are maintained in the business office.